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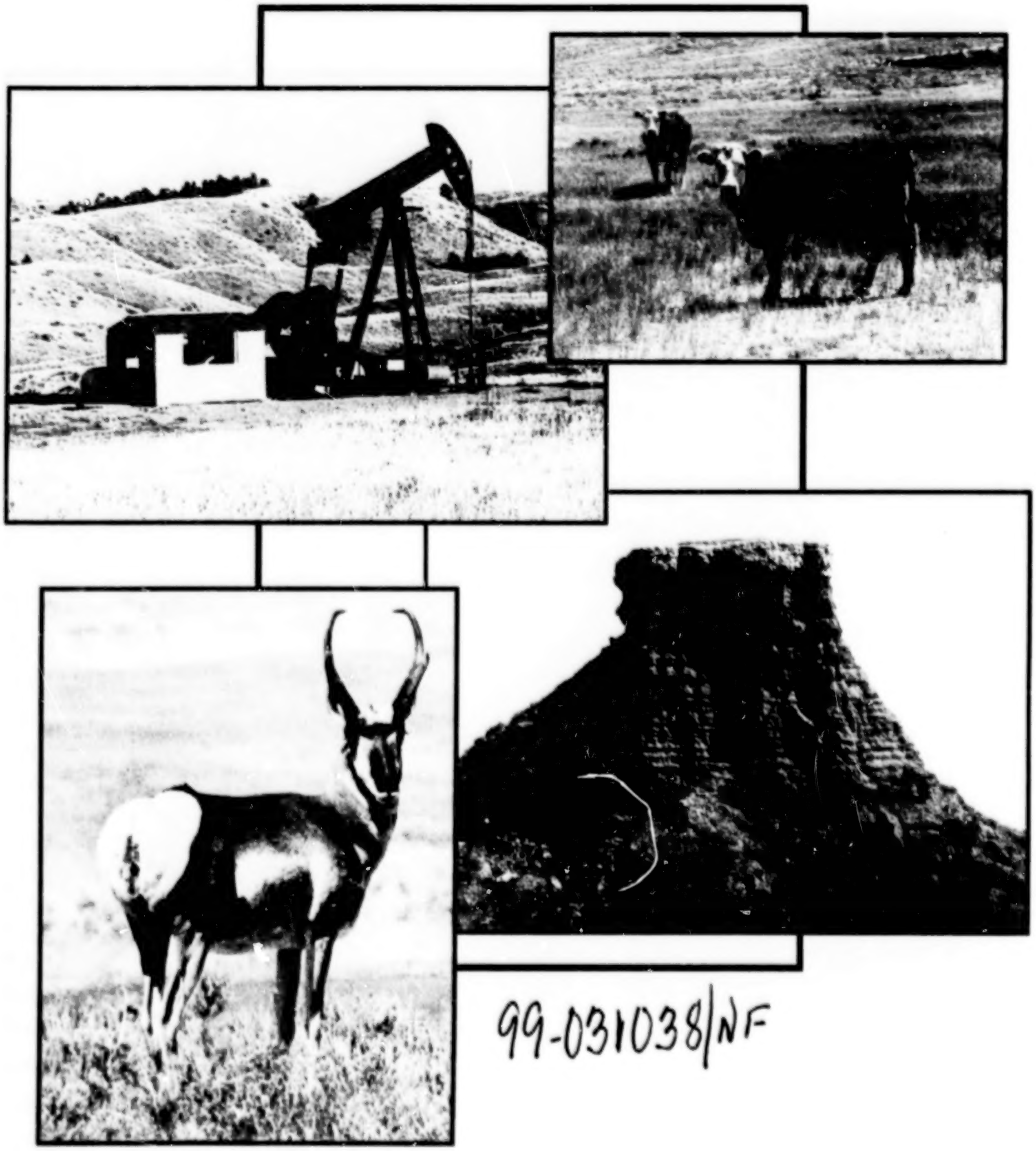
U.S. Department of the Interior
Bureau of Land Management
Wyoming State Office

Casper Field Office June 1999

FINAL
Environmental Impact Statement for the Newcastle Resource Management Plan



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Comments, including names and street addresses of respondents, will be available for public review at the above address during regular business hours (7:45 a.m. to 4:30 p.m.), Monday through Friday, except holidays, and may be published as part of the EIS. Individual respondents may request confidentiality. If you wish to withhold your name or street address from public review or from disclosure under the Freedom of Information Act, you must state this prominently at the beginning of your written comment. Such requests will be honored to the extent allowed by the law. All submissions from organizations or businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, will be made available for public inspection in their entirety.

The Bureau of Land Management is responsible for the balanced management of the public lands and resources and their various values so that they are considered in a combination that will best serve the needs of the American people. Management is based upon the principles of multiple use and sustained yield; a combination of uses that take into account the long term needs of future generations for renewable and nonrenewable resources. These resources include recreation, range, timber, minerals, watershed, fish and wildlife, wilderness and natural, scenic, scientific and cultural values.

BLM/WY/PL-99/019+1610

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Wyoming State Office
P.O. Box 1828
Cheyenne, Wyoming 82003-1828

In Reply Refer To:

1793 (910)

June 9, 1999

Dear Reader:

Enclosed is the Final Environmental Impact Statement (EIS) and Proposed Resource Management Plan (RMP) for Public Lands Administered by the Bureau of Land Management (BLM), Newcastle Field Office. This document presents the Proposed RMP for managing the public lands and resources in the Newcastle area. The proposed RMP is a refinement of the preferred alternative presented in the draft EIS published in March 1998.

Chapter 5 of this final EIS includes BLM's responses to public comments on the draft EIS. One of the best ways to see how the EIS has changed is to read these responses.

All parts of the Proposed RMP may be protested by parties who participated in the planning process and who have an interest which is or may be adversely affected by the approval of the resource management plan (43 CFR 1610.5-2). Protests may only involve issues raised during the planning process and only by the person or persons who raised those issues. Protests should be sent to:

Director, Bureau of Land Management,
Attention: Ms. Brenda Williams, Protests Coordinator
WO-210/LS-1075
Department of the Interior
Washington, DC 20240

Protests must be postmarked within 30 days after the Environmental Protection Agency publishes the filing notice for this final EIS in the Federal Register. The protests should include the following information:

The name, mailing address, telephone number, and interest of the person filing the protest.

A statement of the issue(s) being protested.

A statement of the part(s) of the plan being protested.

A copy of all documents addressing the issue(s) that were submitted during the planning process by the protesting party, or an indication of the date the issue or issues were discussed for the record.

A concise statement explaining why the proposed management plan is believed to be wrong.

To facilitate protests, parties are also encouraged to submit a statement describing the interest which is or may be adversely affected by the approval of the resource management plan.

At the end of the 30-day protest period, the Proposed RMP, excluding any portion under protest, will become final. Approval will be withheld on any portion of the plan under protest until final action on the protest has been completed. Any significant change made as a result of a protest will be made available for public review and comment before it is approved.

I want to personally thank those who have participated in the planning process for this resource management plan. I hope your involvement will continue as we move forward to implement and monitor the plan and manage the public lands and resources in the Newcastle planning area.

Sincerely,

Alan R. Pierson
Alan R. Pierson
State Director

Attachment

FINAL

ENVIRONMENTAL IMPACT STATEMENT

and

PROPOSED

RESOURCE MANAGEMENT PLAN

for

PUBLIC LANDS ADMINISTERED

by the

BUREAU OF LAND MANAGEMENT
NEWCASTLE FIELD OFFICE
Newcastle, Wyoming

Prepared by:

United States Department of the Interior
Bureau of Land Management
Newcastle Field Office

May 1999

Alan R. Pierson
State Director, Wyoming

June 8, 1999
Date

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SUMMARY

INTRODUCTION

This final environmental impact statement (EIS) describes the Proposed Newcastle Resource Management plan (RMP) and its environmental consequences. This proposed plan is for the future management of public lands in the Wyoming portion of the Bureau of Land Management (BLM) Newcastle Field office administrative area. The planning area comprises approximately 291,168 acres of BLM-administered public land surface and 1,407,698 acres of BLM-administered federal mineral estate. (BLM -administered public land surface is referred to as "public land" in this document.)

The draft EIS for the Newcastle RMP, published in March 1998, and the public comments submitted on that document, provided the basis for developing this final EIS and the Proposed Newcastle RMP.

The page sized maps contained in this final EIS show the general management direction associated with the Proposed Newcastle RMP and in some cases the location of important resources. **(It must be remembered that the proposed RMP decisions would apply only to the approximately 291,168 acres of BLM-administered public land surface and 1,407,698 acres of BLM-administered federal mineral estate cited above.)** More detailed maps are on file in the Newcastle Field Office. The information on these maps is dynamic and subject to change as new information and data are acquired.

PUBLIC INVOLVEMENT SINCE MARCH 1998

After the draft EIS for the Newcastle RMP was published in March 1998, the BLM held three open houses. Later, BLM sponsored a guided bus tour of the Lance Creek Fossil Area. Other informal meetings were held with members of the ranching and mineral industries, with representatives of local governments, and with other interest groups and agencies.

A summary of comments generated from these meetings during the public comment period is on file in the Newcastle Field Office.

A total of 23 comment letters, 3 hearing testimonies, and 307 petition signatures were received on the draft EIS. These and the comments taken at meetings and open houses were used in making corrections and needed changes to the Preferred Alternative (of the draft EIS) in developing the proposed Newcastle RMP. These comments and BLM's responses are included in Chapter 5 of this document.

The Newcastle RMP will be kept current through minor maintenance or through amendments and revisions, as the demands on public lands and resources change, as the land and resource conditions change, or as new information is acquired.

DEVELOPMENT OF THE PROPOSED RMP

The proposed Newcastle RMP was developed by making adjustments to the Preferred Alternative presented in the 1998 draft EIS. In addition, the planning team has revised some of the analysis in that draft EIS based on public comments and has included updated information. The most notable changes are summarized below. A complete description of the proposed Newcastle RMP is in table 2-1 in chapter 2.

The following are changes to the draft EIS; none are changes to the proposed management actions described in chapter 2.

> *In chapter 1, three planning criteria have been added: biological diversity, leasable minerals potential, and wild and scenic rivers. None of these criteria caused any changes in the Proposed RMP*
>
> *The "Socioeconomics" section has been updated and revised using current figures.*
>
> *Appendix N, "Fire Management Implementation Plan for the BLM-Administered Public Lands in the State of Wyoming," has been added as a result of a new planning policy that calls for Bureauwide consistency in fire management and budgeting.*
>
> *Map 3-18, "Elk Hunt Areas" and Map 3-24, "Elk and Antelope Herd Unit Boundaries" have been updated to reflect current hunt area boundaries. Map 3-19, "Threatened or Endangered Species Habitat," in the draft has not been included in this document. It was eliminated because the information was found not to be complete.*
>
> *Updated information pertaining to big game population objectives is reflected on table 3-22.*
>
> *Appendix H, "A Detailed Discussion of Oil and Gas Activities and Processes in the Newcastle Resource Area" and appendix I, "Reasonably Foreseeable Development Scenario for Oil and Gas" have been updated with more current information.*

SUMMARY

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ABBREVIATIONS

AAP	Average annual precipitation
AMP	Allotment management plan
APD	Application for permit to drill
AUM	Animal unit month
ACEC	Area of critical environmental concern
ARPA	Archeological Resources Protection Act of 1979
APHIS/WS	Animal and Plant Health Inspection Service, Wildlife Services, U.S. Department of Agriculture
B.P.	Before present
BLM	Bureau of Land Management, U.S. Department of the Interior
BOR	Bureau of Reclamation, U.S. Department of the Interior
CA	Communitization agreement
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations. Numbers refer to title and part; that is 40 CFR 1500 refers to title 40, part 1500.
C&MU	Classification and Multiple Use Act of 1964
DEQ	State of Wyoming, Department of Environmental Quality
EA	Environmental assessment
EIS	Environmental impact statement
EPA	U.S. Environmental Protection Agency
ERMA	Extensive recreation management area
ESA	Endangered Species Act of 1973
FS	Forest Service, U.S. Department of Agriculture
FUP	Free use permit
FWS	Fish and Wildlife Service, U.S. Department of the Interior
FACA	Federal Advisory Committee Act of 1972
FLPMA	Federal Land Policy and Management Act of 1976
gpm	Gallons per minute
HMP	Habitat management plan
I&E	Inspection and enforcement
kg/ha/yr	Kilograms per hectare per year
MFP	Management framework plan
mg/l	Milligrams per liter
MRB	Missouri River Basin
MSA	Management situation analysis
MAST	Mean annual soil temperature
mmbf	Million board feet
MSST	Mean summer soil temperature
NFO	Newcastle Field Office
NNL	National natural landmark
NOI	Notice of intent
NPS	National Park Service, U.S. Department of the Interior
NEPA	National Environmental Policy Act of 1969
NRCS	Natural Resources Conservation Service, U.S. Department of Agriculture (formerly the Soil Conservation Service—SCS)

/

ABBREVIATIONS

NRHP	National Register of Historic Places
NSPS	New source performance standards
NAAQS	National ambient air quality standards
ORV	Off-road vehicle
ppm	Parts per million
PSD	Prevention of significant deterioration
PILT	Payment in lieu of taxes
RMA	Recreation management area
RMP	Resource management plan
ROS	Recreational opportunity spectrum
R&PP	Recreation and public purpose
S&Gs	Standards and guidelines
SCS	Soil Conservation Service, U.S. Department of Agriculture (changed to Natural Resources Conservation Service–NRCS)
SRMA	Special recreation management area
SRP	Special recreation permit
TDS	Total dissolved solids
T&E	Threatened and endangered species
TPI	Total personal income
TSP	Total suspended particulates
URA	Unit resource analysis
USBC	U.S. Bureau of the Census
USDA	U.S. Department of Agriculture
USDC	U.S. Department of Commerce, Economics and Statistics Administration
USDI	U.S. Department of the Interior
USGS	U.S. Geologic Survey
USLE	Universal Soil Loss Equation
VRM	Visual resource management
WDC	Wyoming, Department of Commerce
WDE	Wyoming, Department of Employment (formerly Employment Security Commission)
WDAI	Wyoming, Department of Administration and Information
WDEdu.	Wyoming, Department of Education
WDRT	Wyoming, Department of Revenue and Taxation
WESC	Wyoming, Employment Security Commission
WGFD	Wyoming Game and Fish Department
WAAQS	Wyoming ambient air quality standards
WDAFC	Wyoming, Department of Administration and Fiscal Control
WDHSS	Wyoming, Department of Health and Social Services
WOGCC	Wyoming, Oil and Gas Conservation Commission
WOSIM	Wyoming, Office of the State Inspector of Mines

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CHAPTER 1

PURPOSE OF AND NEED FOR THE ACTION

INTRODUCTION

This is the final environmental impact statement (EIS) for the proposed Newcastle Resource Management Plan (Proposed RMP).

The draft EIS for the Newcastle RMP, published in March 1998, described the alternatives that were analyzed for the planning area and the anticipated consequences of those alternatives. The draft EIS, and the public comments submitted on that document, provided the basis for developing this final EIS and the Proposed Newcastle RMP.

This final EIS is a complete reprinting of the material presented in the draft EIS. It contains updated and revised chapter narratives, maps, tables, and appendices. It should not be necessary to refer to the draft EIS in reviewing this final EIS.

Information on changes in proposals presented in the draft, corrections of any erroneous material, and in some cases more recent data have been incorporated. For this chapter, three planning criteria have been added: biological diversity, leasable minerals potential, and wild and scenic rivers. None of these criteria caused any changes in the Preferred Alternative presented in the draft EIS.

Table 2-1 in chapter 2 contains the proposed RMP which was developed by making minor adjustments to the Preferred Alternative. Chapter 3 contains additions and corrections to the "Socioeconomics" section. Herd unit maps and big game populations have also been updated. Map 3-19, "Threatened or Endangered Species Habitat," in the draft has not been included in this document. It was eliminated because the information was found not to be complete. The environmental consequences of the Proposed RMP are described in chapter 4. Chapter 5 describes the consultation and coordination that has occurred since publishing the draft EIS as well as an updated "Preparers" section. Chapter 5 also contains all comment letters received during the public comment period, transcripts of three public hearings, and BLM's responses to the comments.

The "References" section contains a few new references. The "Glossary of Terms" and "Abbreviations" are included to help the reader.

Appendix N, "*Fire Management Implementation Plan for the BLM-Administered Public Lands in the State of Wyoming*," has been added as a result of a new planning policy that calls for Bureauwide consistency in fire management and budgeting. Appendix H, "A Detailed Discussion of Oil and Gas Activities and Processes in the Newcastle Resource Area" and appendix I, "Reasonably Foreseeable Development Scenario for Oil and Gas," has been updated with more current information. Appendix M contains documentation covering the public participation that has occurred since publishing the second draft.

The Proposed RMP considers the land use and resource management plans, programs, and policies of local and state governments, other federal agencies, and Native American tribes. When approved, the Newcastle RMP will be consistent with these to the extent possible.

The BLM planning process for the development, approval, maintenance, and amendment or revision of RMPs was initiated under the authority of section 202(f) of the Federal Land Policy and Management Act of 1976 (FLPMA) and section 202(c) of the National Environmental Policy Act of 1969 (NEPA). The process is guided by BLM planning regulations in Title 43 of the Code of Federal Regulations (CFR), part 1600 (43 CFR 1600) and the Council on Environmental Quality (CEQ) regulations in 40 CFR 1500.

The BLM's planning process consists of three phases. In the first phase, an interdisciplinary planning team compiled and reviewed the current laws, regulations, policies, executive orders, and directives pertaining to the BLM-administered public lands and resources in the planning area. The Wyoming BLM State Director also provided guidance specific to the individual planning effort and the planning area. These requirements were followed in conducting the planning effort and preparing the draft and final EISs.

The BLM will establish overall land use and resource management, serving as the general management guidance for BLM-administered public land surface and BLM-administered mineral estate in the planning area. Approval and publication of the Newcastle RMP represents completion of the second phase of the planning process.

The last phase is activity planning. When compared to the RMP, activity planning results in site-specific and more detailed analyses and decisionmaking for implementing the general RMP decisions, addressing management concerns in smaller geographical areas, and evaluating projects on a daily basis.

After completion, the Newcastle RMP will be kept current through minor maintenance or through amendments and revisions, as demands on public lands and resources change, as the land and resource conditions change, or as new information is acquired.

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PURPOSE AND NEED

Currently, the management direction for the public lands administered by the BLM in the planning area is provided by the Newcastle Management Framework Plan (MFP) (USDI, BLM 1981), the decisions for a grazing EIS completed in 1984, and various site-specific activity plans. The purpose for developing the Newcastle RMP is to provide an updated, comprehensive, and environmentally adequate planning and management base for the BLM-administered public lands and resources that is consistent with policy and management changes that have occurred since 1981.

The RMP is developed through an environmental analysis process which is documented in an EIS. The EIS describes the anticipated consequences of current management as well as alternatives to current management and their consequences. It provides the basis for developing an RMP that resolves land use and resource issues associated with current management.

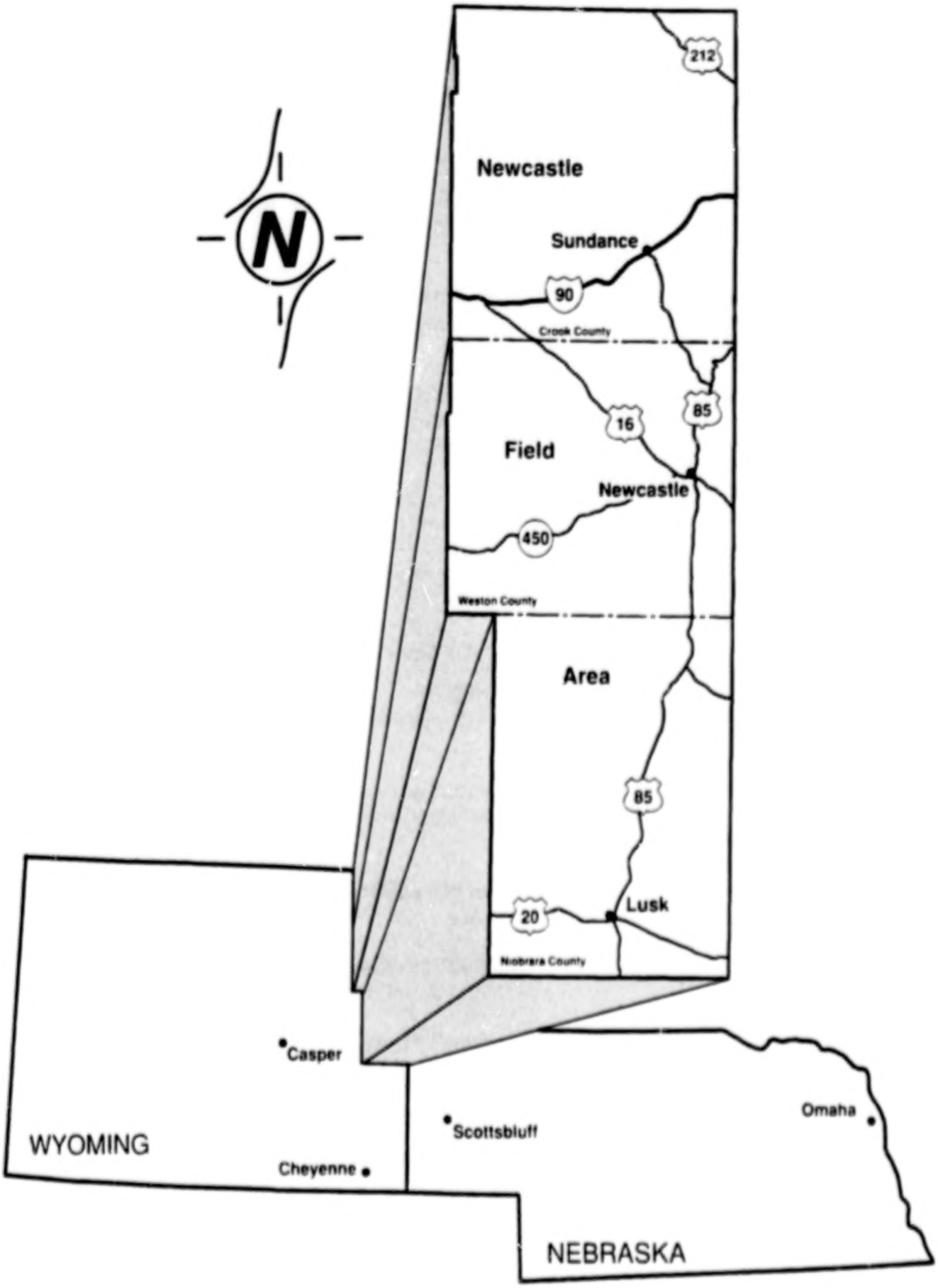
Until the Newcastle RMP is completed, daily management decisions will continue to be based on the existing planning decision documents. The approved Newcastle RMP will supersede the existing MFP and other general planning decision documents for the planning area.

DESCRIPTION OF THE PLANNING AREA

Effective October 1, 1998, the BLM in Wyoming removed the middle layer from its management structure. The four district offices and ten resource area offices were consolidated into ten "field" offices. The district and resource area offices that were colocated in Casper, Rawlins, Rock Springs, and Worland were merged into single field offices. The resource area offices in Newcastle, Buffalo, Cody, Lander, Pinedale, and Kemmerer were simply renamed "field offices." The managers in each office are now referred to as field managers.

The Newcastle Field Office of the BLM, U.S. Department of the Interior (USDI), is responsible for managing all public lands in Crook, Niobrara, and Weston counties in northeast Wyoming (map 1-1), as well as all public lands in Nebraska. As defined by the FLPMA, the "public lands" are those federally owned lands and interests in lands (for example, federally owned mineral estate) that are administered by the Secretary of the Interior, specifically through the BLM. The planning area for the public lands addressed in this document is only the Wyoming portion of the Newcastle field office administrative area. The public lands in Nebraska are covered under the Nebraska Resource Management Plan (USDI, BLM 1992).

Within the Newcastle RMP planning area (Crook, Niobrara, and Weston counties, Wyoming) there are varied and intermingled land surface ownerships and overlapping mineral ownerships. Therefore, the administrative jurisdictions for land use planning and for managing the land surface and minerals are also varied, intermingled, and sometimes overlapping (split-estate). Table 1-1 contains a summary of the land surface and mineral ownership and administrative relationships for the area. Because of this situation, the approved Newcastle RMP will not include planning and management decisions for (1) lands or minerals within the planning area that are privately owned or owned by the state of Wyoming or local governments, or (2) those federally owned minerals within the planning area that are under federally owned land surface that is administered by other federal agencies.



Map 1-1

General Location

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TABLE 1-1

LAND AND MINERAL OWNERSHIP IN THE WYOMING PORTION OF THE NEWCASTLE RMP PLANNING AREA[a]

Areas the Newcastle RMP Decisions Will Cover	Approximate Acreage
A. Areas where the land surface and mineral estate are both federally owned and are both administered by the BLM (Crook, 92,024; Niobrara, 124,085; Weston, 75,059).[b]	291,168
B. Areas where the land surface is federally owned and administered by the BLM and the mineral estate is owned and administered by private individuals, the state of Wyoming, or local governments.[c]	1,000
C. Areas where the land surface is owned and administered by private individuals, the state of Wyoming or local governments and the mineral estate is federally owned and administered by the BLM (Crook, 359,211; Niobrara, 622,237; Weston, 426,250).[d]	1,407,698
Total BLM-administered federal land surface to be covered by RMP decisions.	**292,168**
Total BLM-administered federal mineral estate to be covered RMP decisions.	**1,698,866**
Areas the Newcastle RMP Decisions Will NOT Cover	**Approximate Acreage**
D. Areas where the federal land surface is administered by the Forest Service (Black Hills National Forest) and the federal mineral estate is administered by the BLM.[e]	174,743
E. Areas where the federal land surface is administered by the Forest Service (Thunder Basin National Grassland) and the federal mineral estate is administered by the BLM.[e]	228,627
F. Areas where the federal land surface is administered by the BOR and the federal mineral estate is administered by the BLM.e	6,863
Total BLM-administered federal mineral estate that will NOT be covered by RMP decisions.	420,233
G. Areas where the land surface and minerals are both owned by private individuals, and the state of Wyoming or local governments; the BLM has no jurisdiction or administrative authority.	2,452,473
Total land surface in the Newcastle RMP planning area (all ownerships).	**4,966,559**

[a] For the purposes of the Newcastle RMP planning effort, areas where one or more of the mineral resource categories are federally owned will be addressed as if all minerals in the area were federally owned. Where mixed minerals ownership occurs (for example, privately owned oil and gas overlapping with federally owned coal in the same area), minerals planning and management decisions in the final RMP will only pertain to the federally owned minerals.

[b] In these areas, the RMP will include planning and management decisions for both the federal land surface and the federal mineral estate.

[c] In these areas, the RMP will include planning and management decisions for only the BLM-administered federal land surface. While the federal surface management decisions may have some effect on the ability to manage and develop the nonfederally owned minerals, the RMP planning and management decisions will not pertain to the nonfederal mineral estate. At the same time, surface and minerals management actions and development activities anticipated in these areas will be taken into account for purposes of cumulative impact analysis in the EIS for the Newcastle RMP.

[d] In these areas, the RMP will include planning and management decisions for only the BLM-administered federal mineral estate. While the land and resource uses and values on the nonfederal surface will be taken in account and will affect development of the federal mineral planning and management decisions, these federal mineral decisions will not pertain to the state and privately owned land surface. At the same time, surface and minerals management actions and development activities anticipated in these areas will be taken into account for purposes of cumulative impact analysis in the EIS for the Newcastle RMP.

[e] In these areas, the land surface planning and management decisions are the responsibility of these "other" federal surface management agencies. Any BLM administrative responsibilities within these areas (for example, actions concerning the federal mineral estate) are handled case by case and are guided by the other surface management agencies' policies, procedures, and plans. Thus, the Newcastle RMP will not include planning and management decisions for the federal minerals in these areas. At the same time, surface and minerals management actions and development activities anticipated in these areas will be taken into account for purposes of cumulative impact analysis in the EIS for the Newcastle RMP.

In accordance with a memorandum of understanding between the BLM and the Bureau of Reclamation (BOR), the BLM carries out some management activities on federal lands withdrawn for purposes of the BOR. It is important to note, however, that the administrative jurisdiction for these lands, including decisionmaking for land use planning and management, lies with the BOR and not with the BLM.

The Newcastle RMP will not include any planning and management decisions for areas where the land surface and minerals are both privately owned or owned by the state of Wyoming or local governments.

PLANNING ISSUES AND PLANNING CRITERIA

Planning Issues Identified

Issue identification is the first step of the nine-step BLM planning process. The planning process is illustrated on figure 1-1 and described in appendix D. Planning issues are determined from public demands, and concerns, conflicts, or problems regarding the use or management of the public lands and resources. These are usually expressed in terms of the effects that some land and resource uses have on other land and resource uses or resource values. The following planning issues were identified through public scoping and BLM's analysis of existing management in the Newcastle planning area.

Issue A: Retention or Disposal of Public Lands

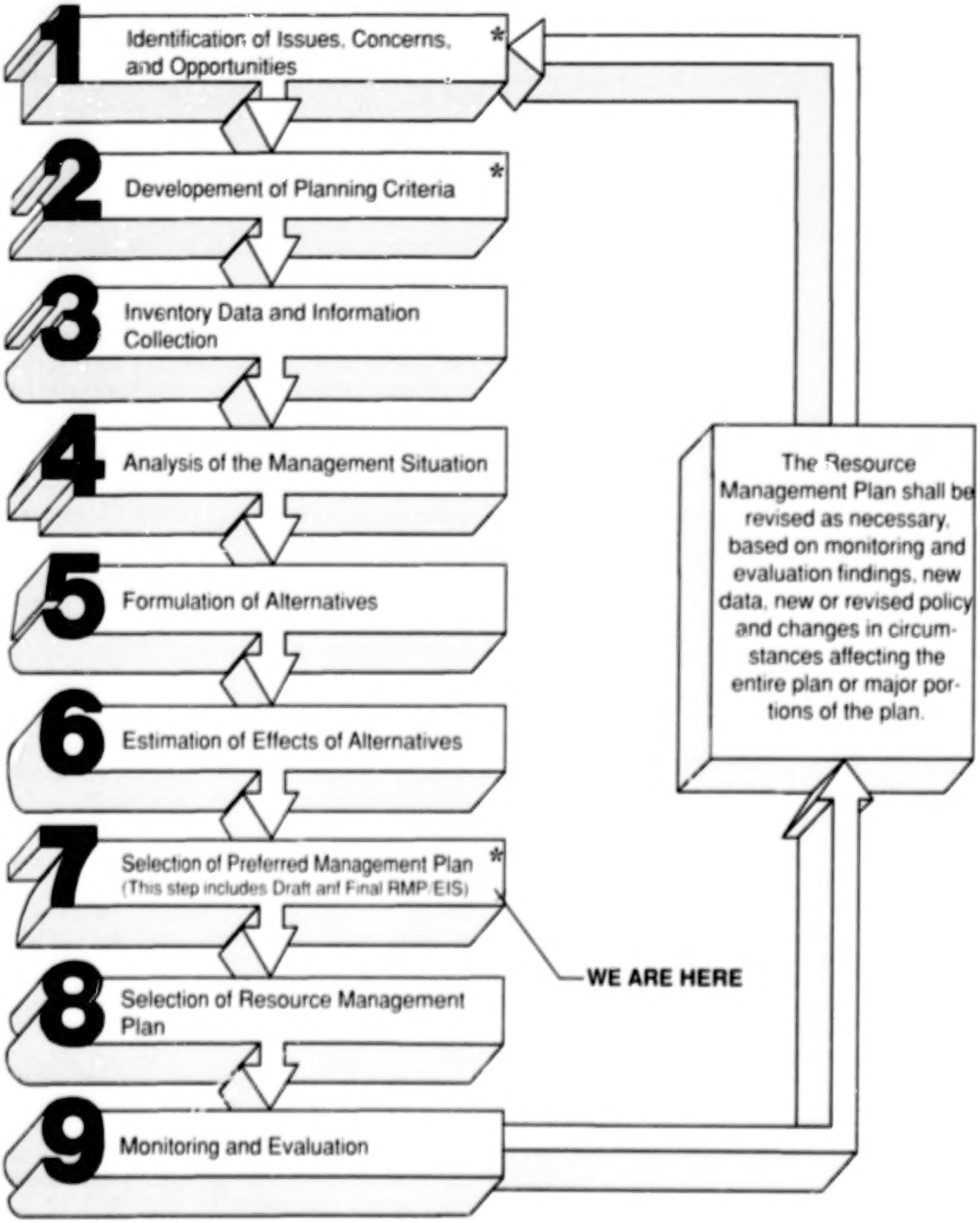
The scattered, isolated public land surface ownership pattern in the planning area is the direct result of several decades of congressionally mandated transfer of federal landownership into private ownership. (Please see the "Surface Ownership" map in the back pocket.) Before passage of the Classification and Multiple Use (C&MU) Act in 1964, the primary role of the BLM was as the federal government's interim landlord for the public lands until the lands could be transferred into private ownership and be "settled." The BLM-administered public lands remaining today are either those that "no one wanted," were overlooked, were odd-shaped and small survey remnants, or were in some way encumbered from clear title transfer of ownership (for example, litigation of land surveys and ownership). In 1976, the FLPMA substantially changed the way that BLM-administered public lands were to be managed, especially in the area of public land disposal.

The FLPMA, BLM's organic act, provided (for the first time) for retention of the public lands in federal ownership and their management by the BLM in an environmentally acceptable manner using the principles of multiple use and sustained yield of the lands and resources. While transfer of public lands into private ownership was no longer a primary objective, it was still open to consideration and would be appropriate where supported by land use planning and environmental analysis and a determination that it would be in the public interest.

Management of the scattered and isolated parcels of BLM-administered public lands in the planning area is difficult because of their small size and the lack of access to many parcels. Management objectives of adjacent private landowners often differ from those of the BLM, which also makes managing these public lands difficult.

Issue B: Surface Disturbance

Concerns expressed by numerous entities regarding surface disturbance include where it occurs, what kind occurs, how much occurs, how the BLM is mitigating it, and the reclamation being done after it occurs. Surface disturbance on public land requires complex evaluation and a complex management approach. While the BLM needs to provide for the development and use of resources on the public lands (such as minerals development and livestock grazing), it also needs to provide for the protection and use of cultural resources, wildlife habitat, and other values.


1 Identification of Issues, Concerns, and Opportunities *
2 Developement of Planning Criteria *
3 Inventory Data and Information Collection
4 Analysis of the Management Situation
5 Formulation of Alternatives
6 Estimation of Effects of Alternatives
7 Selection of Preferred Management Plan * (This step includes Draft anf Final RMP/EIS)
8 Selection of Resource Management Plan
9 Monitoring and Evaluation
WE ARE HERE
The Resource Management Plan shall be revised as necessary, based on monitoring and evaluation findings, new data, new or revised policy and changes in circumstances affecting the entire plan or major portions of the plan.

*Public Participation Opportunities

Figure 1-1

Steps in the Resource Management Planning Process

Issue C: Special Management Area Designations

The BLM identifies and designates public lands as special management areas to recognize unique or threatened resources. Whoopup Canyon and the Stateline SRMA are examples of this type of designation. Several comments and concerns suggested that designation of the Whoopup Canyon ACEC and the Stateline SRMA would restrict the use of these areas.

Some BLM-administered public lands also contain hazardous substances, such as high concentrations of hydrogen sulfide gas (H_2S), which require special management attention (Onshore Oil and Gas Order No. 6).

Issue D: Control of Prairie Dogs on BLM-administered Public Lands

Concerns were expressed that BLM would not allow control of prairie dogs on BLM-administered public land.

It is important to note that BLM is not refusing to deal with the control of prairie dogs on BLM-administered public lands should their numbers increase to pest proportion. If the situation is determined to be a threat to human health and safety, or damaging to natural resources, BLM will implement procedures to diminish the number of prairie dogs on public lands and alleviate any problems created by their escalating population. BLM will coordinate efforts with other federal authorities, and with the state and local authorities, to implement safe and effective control measures when necessary. BLM is cognizant of its dual role with the state as guardians of wildlife and wildlife habitat and will continue to seek new opportunities to foster a "good neighbor" policy with the state. Prairie dogs and their towns are an important component of the prairie ecosystem and are valuable in providing habitat and a food source for a number of wildlife species, many of which are species of special management concern.

While BLM would not consider total eradication of prairie dogs from BLM-administered public land surface, resource damage would be documented by BLM personnel when reported by the grazing lessee, adjacent landowners, or other interests. This could include resource damage occurring on private or state lands from prairie dog towns located on BLM-administered public lands. The BLM will continue to annually review with Animal Plant Health Inspection Service, Wildlife Services (APHIS/WS), their annual wildlife damage management plans for animal damage control activities on public lands. Areas where proposed animal damage control activities on BLM-administered public land surface (all or specific methods) are not compatible with BLM planning and management objectives or prescriptions for other resource activities and uses will be identified on a case-by-case basis, and APHIS/WS will be requested to amend or adjust proposed animal damage control activities accordingly. Human health and safety determinations would be made by the Wyoming Department of Health or by officers of the US Centers for Disease Control.

Planning Criteria

Planning criteria are the conditions and guidelines or parameters for conducting the planning effort, for preparing the draft and final EISs for the RMP, and for developing the approved RMP. The planning criteria serve to:

1. ensure that the planning effort is focused on the issues, follows and incorporates legal requirements, addresses management of all public land resources and land uses in the planning area, and that plan preparation is accomplished efficiently;
2. identify the scope and parameters of the planning effort for the decision maker, the interdisciplinary planning team, and the public; and,
3. inform the public of what should and should not be expected from the RMP, including identification of any planning issues that are not ready for decision-making in the RMP and that will be addressed only through subsequent planning efforts.

Planning criteria are based on standards prescribed by laws and regulations; guidance provided by the BLM Wyoming State Director; the results of consultation and coordination with the public, other agencies, governmental entities, and Indian tribes; analysis of information pertinent to the planning area; public input; and, professional judgment. The general planning process described in appendix D has been developed to help focus the preparation of planning and management alternatives and the analysis of their impacts, and to guide selection of the Preferred Alternative and Proposed RMP. Additional planning criteria may be identified as the planning process progresses.

Criteria for Use of Mitigation Guidelines

The Wyoming BLM has developed "mitigation guidelines" for use in determining the types and levels of mitigation needed to protect important resources from actions involving surface-disturbing and other human-presence disturbance or disruptive activities. These guidelines are used in the RMP process for (1) developing the alternatives for the EIS and analyzing the impacts of the alternatives; and (2) as part of the planning criteria for developing the alternatives and for determining mitigation requirements to be included in the approved

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RMP. The "Wyoming BLM Mitigation Guidelines for Surface-disturbing and Disruptive Activities" are detailed in appendix E, which also contains further information on how they are used in the RMP process.

Mitigation requirements (including restrictions on surface occupancy and/or surface activity and use) are applied as conditions of land and resource use for the following reasons: (a) to protect important cultural resources, recreational values, and wildlife resources (including T&E and candidate species); (b) to minimize soil movement on slopes; (c) to minimize disturbance of vegetation in sensitive areas such as wetland/riparian areas; or (d) to protect visual resources and historic trails.

As appropriate, surface-disturbing activities would be subject to one or more of the mitigation requirements exemplified in the mitigation guidelines. On lands where the federal surface is administered by other agencies and the federal mineral estate is administered by the BLM, the Wyoming BLM mitigation guidelines would only be applied where the surface managing agency has not developed other surface protection mitigative measures or stipulations that are needed. The mitigation guidelines would be applied to land surface areas that are privately owned or owned by the state of Wyoming or local governments only in cases where those lands overlay BLM-administered federal minerals and only in situations where the mineral actions authorized by the BLM could (a) cause adverse on-site or off-site effects on T&E or candidate species or on cultural resource values; or (b) cause adverse on-site or off-site effects on any resource values on any other lands.

Mitigation requirements ultimately included in the approved RMP, that are developed through the use of the mitigation guidelines, could later be waived, modified, excepted, or combined with other conditions of resource use. Circumstances which would warrant these changes are as follows: (a) as a result of addressing situations beyond the analysis level of the EIS (for example, development and analysis of an activity plan or a site-specific project proposal); (b) if the conditions that originally warranted a restriction (such as the presence of an active raptor nest) no longer exist; or, (c) if the location of a proposed activity or use were to be moved to avoid such conditions. Conversely, mitigation requirements that are not identified in the approved RMP could be applied to address situations or resource values either not present or not identified at the time the RMP was developed, but that were later identified through site-specific investigations. An example where mitigation requirements might be used could be on a newly discovered raptor nest or newly identified cultural resources. Addition or modification of mitigation requirements generally would be allowed as long as modified conditions of use did not prohibit the exercise of valid existing rights.

Criteria for Coal Screening Process

The coal screening process (including application of the coal unsuitability criteria) under 43 CFR 3461 will not be conducted for the planning effort. Any interest in coal exploration for or leasing of federal coal will be handled on a case-by-case basis. If an application for a federal coal lease is received sometime in the future, an appropriate land use and environmental analysis will be conducted (which will include conducting the coal screening process), to determine whether or not the federal coal areas applied for are acceptable for development and leasing consideration. The RMP will be amended as necessary. To date, there has been no interest expressed to the BLM for leasing and development of federal coal in the planning area.

Criteria for Healthy Rangelands

The Standards for Healthy Rangelands and Guidelines for Livestock Grazing Management for Public Lands Administered by the Bureau of Land Management in the State of Wyoming (S&Gs) were approved by the Secretary of the Interior on August 12, 1997. They have been included in this document as appendix F. The Secretary of the Interior approved the Wyoming BLM S&Gs to aid in achieving the four fundamentals of rangeland health outlined in the grazing regulations (43 CFR 4180.1). These four fundamentals are: (1) watersheds are functioning properly; (2) water, nutrients, and energy are cycling properly; (3) water quality meets state standards; and, (4) habitat for special status species is protected. The standards apply to all resource uses on public lands while the guidelines apply specifically to livestock grazing practices. The S&Gs are used to aid in developing alternatives for the EIS and in considering appropriate management actions necessary to implement the S&Gs.

As appropriate, management objectives and actions described for each alternative addressed in the EIS would generally be subject to all of the standards. In addition, the livestock grazing management objectives and actions for each of the alternatives would be subject to both the standards and the guidelines. Therefore, actions to implement the S&Gs (including mitigation measures) in the planning area are described in the descriptions for each alternative. Because the S&Gs provide policy guidance (first phase of the BLM planning process) they apply to all alternatives. However, the intensity of objectives and actions to implement the S&Gs may vary by alternative. Additional site specific actions to implement the S&Gs will be developed on a case-by-case basis through site-specific activity planning (third phase of the planning process).

Criteria for Special Situations

Biological Diversity. Biological diversity is the variety of life and its processes. Although vastly complex, it includes some measurable distinctions like genetic differences with and among species, species variations, associations of species within each other and their environmnts, and the patterns and linkages of these biological communities across geographical areas (Keystone Center 1991).

Inventory, monitoring, research, data management, and information sharing are needed for understanding the elements of biological diversity that exist in the Newcastle planning area. There is a need to identify biologically diverse areas and conserve their richness of native plant and animal species. The FLPMA mandates inventory of the public lands and the use of inventories in management. According to the Keystone Center, BLM's multiple-use management of public lands promotes biological diversity because, under this management, a variety of ecologic stages of habitat are developed and maintained, each with its particular plant and animal community. Also, the variety of landscapes and habitat types making up the public lands provides naturally for biological diversity.

BLM policy requires that habitats be managed with emphasis on biological communities and natural systems to ensure self-sustaining populations and an abundance and diversity of wildlife, fish, and plant resources on the public lands; and, that rare, vulnerable and representative habitats, plant and animal communities, and natural systems be conserved.

Hydrocarbon Potential. As an aid in developing alternatives for this EIS, special criteria were developed relative to the leasing and development of carbon-based minerals (oil and gas). Using available geologic information, reports of past production, and information from the minerals industry, the Newcastle Field Office was divided into regions of high, moderate, and low potential for the occurrence and development potential of hydrocarbons. The estimates of oil and gas exploration and development activity presented under each alternative in table 2-1 (in chapter 2) were developed from analysis of past activity and production. Because they are general, these occurrence and development potential classifications and production estimates are appropriate for planning purposes, but they are not appropriate for, nor are they intended to predict, future specific activity or the specific locations of new discoveries.

Leasable Minerals Potential. The Newcastle planning area has from low to high potential for the occurrence and development of oil and gas; low potential for the occurrence and development of coal and low potential for development of coal bed methane; unknown potential for geothermal energy; and high occurrence potential but low development potential for tar sands. Information on mineral occurrence potential and records of past minerals activities were used to estimate what types and amounts of future mineral development would take place in the planning area. Estimates of reasonably foreseeable mineral development were used to aid in the analysis of environmental consequences. Although exploration for leasable minerals could involve all of these resources, production during the analysis period for this EIS (15 years) is anticipated primarily for oil and gas.

Locatable Minerals Potential. Special criteria were developed relative to the potential for occurrence and development of locatable minerals such as uranium and bentonite. Areas of high, moderate, and low potential were derived to facilitate analysis of the effects that the variety of other land and resource uses and management actions would have on locatable minerals development. This evaluation is only based on a representative analysis by inference and does not imply that there may or may not be other, undiscovered locatable minerals of economic value in the Newcastle RMP planning area.

Areas with high potential for the occurrence of locatable minerals include areas with current or past mining activity and areas where mineral occurrence has been proven from past exploration activities, such as stratigraphic test holes. Areas with moderate potential have geologic formations known to include locatable minerals and where existing or previous mining claims have been located. Low potential areas have no geological formations known to contain minerals of interest.

Withdrawals and Classifications. Under sections 202(d) and 204(l) of the FLPMA, any classification or withdrawal on BLM-administered public land is subject to periodic review to determine whether or not it is serving its intended purpose and is still needed. These reviews can be conducted during the land use planning process. This may result in some classifications and withdrawals being modified or terminated and the management direction for the areas involved are also updated or developed in the course of completing the planning process. The criteria for conducting these reviews in the course of the Newcastle RMP planning effort are presented below.

Withdrawals Under Other Agency Jurisdiction. The withdrawal review requirement of the FLPMA has not yet been completed on those federal lands withdrawn for purposes of other federal agencies (for example, those under the jurisuiction of the National Park Service [NPS]).

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For the purposes of the EIS for the Newcastle RMP, it must be assumed that this will continue to be the case, and that the planning and management authorities for these lands will remain with those agencies.

The Newcastle RMP will not include any planning or management decisions for either the federal land surface or federal minerals within the administrative boundaries of such agencies. These lands were considered in conducting the environmental analysis for the EIS for the Newcastle RMP in terms of cumulative impacts and in terms of how they may be affected by management in the planning area or vice versa.

Withdrawals and Classifications Under BLM Jurisdiction. Where the review of withdrawals and classifications on any lands under BLM jurisdiction results in determining that any part of the withdrawals or classifications are no longer serving their intended purposes and are to be terminated, the planning and management decisions for the affected areas will also be reviewed to determine if and how the management of the involved lands should change. This latter review is done as an integral part of the environmental analysis process to establish any needed changes in the management of the involved lands before the existing withdrawals or classifications are terminated, and includes consideration of whether or not new withdrawals or classifications, for other purposes, should be placed on any of the lands in question.

For purposes of providing an adequate comparison of impact analyses in the EIS, under Alternative A (the "No Action" Alternative), all existing withdrawals and classifications and their segregative effects are assumed to continue in effect. The other alternatives will address various changes in management for the areas where termination of withdrawals or classifications under BLM jurisdiction are being considered.

Wilderness and Wild Horse Management. Wilderness management and wild horse management will not be addressed in the Newcastle RMP planning effort. There are no wilderness areas or wilderness study areas on BLM-administered public lands in the planning area. In addition, there have been no other areas with wilderness characteristics identified on public lands in the planning area. There are no known wild horses or wild horse herd management areas in the planning area.

Wild and Scenic Rivers. In the course of conducting the planning effort, public lands along all waterways in the planning area were reviewed to determine their eligibility to be considered for inclusion in the National Wild and Scenic Rivers System. No public lands were found to meet the eligibility criteria. Appendix C describes the review process and the specific criteria that were used.

CHAPTER 2

DESCRIPTION OF THE ALTERNATIVES, INCLUDING THE PROPOSED RESOURCE MANAGEMENT PLAN

INTRODUCTION

The basic goal in formulating alternatives for an EIS is to identify combinations of management practices for and uses of the public lands and resources that would resolve the planning issues. Each alternative is to represent a complete and reasonable interdisciplinary (or multiple use) land use plan to guide future management of the public lands and resources in the planning area. One alternative, the No Action Alternative, represents the continuation of present management. The other alternatives provide a range of choices for solving problems associated with present management. Problems with present management are identified through scoping and issue identification for the planning process, which includes public involvement.

Analysis of impacts that would be associated with the alternatives is required by BLM planning regulations and the NEPA-based CEQ regulations. Comparison of the differences among the alternatives is also required. Based on this comparative analysis, BLM develops and also analyzes the Proposed RMP.

This chapter presents four alternative resource management plans, including the Proposed RMP, for managing the public lands and resources in the Newcastle RMP planning area.

Alternative A, the "No Action" Alternative, would continue present management practices on the basis of existing land use plans and other management decision documents. The other alternatives suggest different combinations of emphasis for management of the various resources and land uses on the BLM-administered public lands on the basis of needs, opportunities, and public demand. Of the four alternatives, the BLM believes the Proposed RMP, which was developed by combining parts of alternatives A, B, and C, and incorporating public input, provides the best balance of production or commodity uses with protection of the environment.

Under the Proposed RMP, management emphasis would be generally oriented toward managing the BLM-administered public lands for conservation of natural resources, providing for and sustaining the biodiversity (diversity of plant and animal species) in the planning area, and enhancing and sustaining the viability of ecosystems that occur in the planning area. Known areas of species diversity richness in the planning area include riparian, stream and drainage areas, and the transition areas between physiographic zones along the edges of the Black Hills. Under the Proposed RMP, management in these areas would be directed toward maintaining those diverse values. In general, vegetative resources would be managed to provide and maintain appropriate habitat for vertebrate and nonvertebrate species of wildlife in some parts of the planning area, when conflicts with those values exist in other parts of the planning area. Under the Proposed RMP, a concept of comprehensive ecosystem management would be practiced to ensure that man's use of the BLM-administered public lands and the development and enjoyment of resource products and values they contain would be provided in ways that sustain healthy and productive ecosystems for future generations.

Future studies must be conducted to determine boundaries of ecoregions and ecosystems that involve part or all of the planning area, to determine goals and objectives for managing ecoregions and ecosystems, and to determine various management actions that may be undertaken on the BLM-administered public lands to help achieve those objectives. These studies and determinations will be part of the activity planning and management implementation aspects following approval of the Newcastle RMP. If necessary, the RMP would also be amended in the process.

OTHER MANAGEMENT OPTIONS CONSIDERED BUT ELIMINATED FROM DETAILED ANALYSIS

Several possible resource management options were identified by members of the interdisciplinary team during the planning process. Some of these options were not carried forward for detailed analysis because they were unreasonable or not viable because of technical, legal, or other constraints. Each of these options is presented below.

Livestock Grazing Options

A full range of management options was presented and analyzed in the Newcastle Resource Area Grazing EIS (USDI, BLM 1983); therefore, that analysis will not be repeated here. The approved decisions for the grazing EIS have been incorporated into this EIS for the RMP.

The elimination of livestock grazing from all public lands in the planning area was considered as a possible method of resolving some of the planning questions related to vegetative resources. However, on the basis of evaluation by the interdisciplinary team, the "no grazing" alternative was eliminated from detailed study for the following reasons.

Resource conditions, including range vegetation, watershed, and wildlife habitat do not warrant a prohibition of livestock grazing throughout the planning area. However, reduction or elimination of livestock grazing may be necessary in specific situations where livestock grazing would significantly conflict with other management objectives. Such decisions, which would be determined during activity planning, would be based on the results of monitoring and studies, among other factors.

Public comments received during the scoping process and during preparation of the draft EIS indicated a general acceptance of livestock grazing on the public lands, provided such grazing is properly managed. Because of the fragmented landownership pattern and the dominating private land surface ownership in the planning area, either exchanges to "block up" public lands would be required or extensive fencing would be needed to exclude livestock from public lands. It is doubtful that enough exchanges with private landowners could be accomplished to sufficiently "block up" public lands. The amount of fencing needed to exclude livestock from the public lands would be economically unfeasible, would excessively restrict wildlife movement, and would further restrict public access.

Elimination of Timber Harvesting

Elimination of all timber harvesting on public lands in the planning area was considered. However, the 25,300 acres of forestlands capable of sustaining forest production need to be harvested over time to maintain a healthy, vigorous forest ecosystem. Because fire and, to an extent, disease have been eliminated by human influence, the harvesting of forest products helps sustain the ecological processes that maintain the healthy condition of the forest. Further, there is sufficient local demand to warrant continued commercial forest harvest. Not harvesting forest products would be contrary to the BLM forest management policy.

Elimination of Mineral Leasing and Mineral Material Sales

One option considered was closing the planning area to federal mineral leasing and sale of federal mineral materials, such as sand and gravel. This option was dropped from further analysis because it is unrealistic. The leasing and sale of federal minerals and mineral materials are discretionary actions and within BLM's authority and responsibility to determine where they may occur and the conditions under which the minerals and materials may be explored and developed. In addition, this option would be directly contrary to the BLM's multiple use directives in FLPMA and would not be in the best national interest.

Elimination of Restrictive or Protective Stipulations from Development and Surface-disturbing Activities

This alternative was not analyzed in detail because it could not provide the minimum environmental protection requirements of law.

Elimination of Oil and Gas Leasing in Areas With High Hydrogen Sulfide Potential

This option was considered to protect human health and safety in an area of Niobrara County that contains as much as 55% hydrogen sulfide (map 3-8 in chapter 3). Two proposals were identified: 1) to close the area to leasing, and 2) to allow leasing in the area, but restrict drilling to zones above the hydrogen sulfide-bearing formations. This option was not analyzed in detail because hydrogen sulfide mitigation procedures, described in Onshore Oil and Gas Order Number Six and appropriate state of Wyoming regulations, are considered adequate to protect the public health and safety. More detailed information on hydrogen sulfide can be found in chapter 3 in the "Geologic Hazards" section.

Restriction of Development or Activity in Areas Containing High Amounts of Selenium

Selenium in potentially toxic amounts may be present in a northwest to southeast band across the planning area. In addition, selenium indicator plants are present in the Newcastle planning area. No indication of selenium-related problems due to inhalation or ingestion of this mineral have been identified by grazing lessees, the mineral industry, the general public, or other federal agencies. Selenium levels may become hazardous in reservoirs that operate as closed systems in soils containing selenium, especially in soils derived from Cretaceous shales. It has been determined that no restrictive action is appropriate at this time. If new information becomes available, public land users will be notified of the potential hazard. More detailed information on selenium can be found in chapter 3 in the "Geologic Hazards" section.

ALTERNATIVES ANALYZED IN DETAIL

Table 2-1 is a comparative summary of alternative resource management plans, including BLM's Proposed RMP for managing the public lands and resources in the Newcastle planning area. Alternative A, the "No Action" Alternative, would continue present management practices on the basis of existing land use plans and other management decision documents. The other alternatives suggest different combinations of emphasis for management of the various resources and lands uses on the BLM-administered public lands on the basis of needs, opportunities, and public demand. While Alternative C may be considered the environmentally preferred alternative, BLM believes the Proposed RMP, which was developed by combining parts of alternatives A, B, and C, provides the best balance of production or commodity uses with protection of the environment. The environmental consequences (impacts) of the alternatives are summarized in chapter 4.

Table 2-1
Summary of Alternatives, Including the Proposed Resource Management Plan

Land Use or Resource	Proposed Resource Management Plan	Current Management Alternative A	Alternative B	Alternative C
AIR QUALITY MANAGEMENT	**MANAGEMENT OBJECTIVE:** Maintain or enhance air quality, protect public health and safety and sensitive natural resources, and minimize emissions that could result in acid rain, violations of air quality standards, or reduced visibility. (Also see appendix F.)	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	MANAGEMENT ACTIONS: All BLM-administered public lands would be managed to maintain the air quality at the current prevention of significant deterioration (PSD) Class II standard. BLM-initiated or authorized actions, such as the use of prescribed fire, would avoid violation of Wyoming and national air quality standards.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	Requirements would be applied to authorized actions and activities on a case-by-case basis to avoid air quality problems. Requirements could include limiting emissions, restricted spacing of project locations, and controlling dust from surface-disturbing activities.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	BLM would coordinate with Wyoming Department of Environmental Quality (DEQ) and the Environmental Protection Agency (EPA) on air quality standards and regulations as needed.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.

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Table 2-1
Summary of Alternatives, Including the Proposed Resource Management Plan

Land Use or Resource	Proposed Resource Management Plan	Current Management Alternative A	Alternative B	Alternative C
AIR QUALITY MANAGEMENT (continued)	BLM would coordinate and cooperate with other federal and state agencies in monitoring and collecting air quality data.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
CULTURAL RESOURCES (all public land interests only)	**MANAGEMENT OBJECTIVE:** Protect, preserve, interpret, and manage significant cultural resources; manage cultural resources for information potential, public and educational values, and conservation.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	MANAGEMENT ACTIONS: Data would be collected on the nature and condition of significant cultural sites on public lands. Site protection measures would be initiated for significant sites as needed. Cultural resource project plans would be developed for the more sensitive sites.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	Sites listed on the National Register of Historic Places (NRHP) would be appropriately protected. Investigations of violations of the Archaeological Resources Protection Act would be conducted.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	Site-specific inventories for cultural resources would be required before the start of surface-disturbing activities. Adverse effects on significant resources would be mitigated, or the resources themselves would be avoided by surface-disturbing activities.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.

Table 2-1
Summary of Alternatives, Including the Proposed Resource Management Plan

Land Use or Resource	Proposed Resource Management Plan	Current Management Alternative A	Alternative B	Alternative C
CULTURAL RESOURCES (continued) (all public land interests only)	The BLM would cooperate with other agencies and private landowners to identify and interpret historic trails.	No similar action.	Same as Proposed RMP.	Same as Proposed RMP.
	Areas within ¼ mile or the visual horizon, whichever is closer, of significant segments of historic trails that are listed on the NRHP, or that are eligible for listing on the NRHP, would be avoidance areas for surface-disturbing activities.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	As appropriate, specific sites on public lands would be managed for their traditional Native American cultural values.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	Surface-disturbing and disruptive activities associated with constructing and using interpretive sites and facilities would be subject to appropriate mitigation measures (appendix E).	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP
FIRE MANAGEMENT (public land surface only)	**MANAGEMENT OBJECTIVE:** To cost effectively protect life, property, and resource values from wildfire and to use prescribed fire to achieve multiple use management goals. (Also see appendixes F and N.)	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.

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Table 2-1
Summary of Alternatives, Including the Proposed Resource Management Plan

Land Use or Resource	Proposed Resource Management Plan	Current Management Alternative A	Alternative B	Alternative C
FIRE MANAGEMENT (continued) (public land surface only)	**MANAGEMENT ACTIONS:** Fires in limited suppression areas would be monitored to ensure they do not threaten state or private lands, property, oil and gas fields, important riparian habitat, or human life.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	Full suppression would be used on fires endangering human life or that spread to within ¼ mile of state or private lands, property, oil and gas fields, and important riparian habitat.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	Some methods of suppression would be restricted in sensitive areas. This may include, but would not be limited to, restricting heavy equipment on cultural or historic sites (for example, Whoop-up Canyon). All wildfires would be evaluated to determine the need for rehabilitation or restoration measures.	There would be no restrictions on suppression methods.	Same as Proposed RMP.	Same as Proposed RMP.
	Restoration of burned areas would be by natural succession unless a special need is identified to prevent further resource damage.	Same as Proposed RMP.	Restoration of burned areas would emphasize establishing vegetative cover to prevent erosion and to encourage desired plant species.	Restoration of burned areas would be designed to achieve a plant community tailored to the anticipated uses of the area.
	Prescribed burning would be used as a resource management tool on public land surface. Activity plans would be prepared to address specific applications in accordance with multiple use resource management objectives.	Same as Proposed RMP.	Prescribed burning would not be used as a management tool.	Same as Proposed RMP.

Table 2-1
Summary of Alternatives, Including the Proposed Resource Management Plan

Land Use or Resource	Proposed Resource Management Plan	Current Management Alternative A	Alternative B	Alternative C
FIRE MANAGEMENT (continued) (public land surface only)	Fire line construction would be avoided if natural fire breaks could be used.	No similar action.	Same as Proposed RMP.	Same as Proposed RMP.
	Using bulldozers in riparian and wetland areas, areas of significant cultural resouces or historic trails, and in important wildlife birthing areas would generally be prohibited.	Using bulldozers in riparian and wetland areas, areas of significant cultural resouces or historic trails, and in important wildlife birthing areas would be determined on a case-by-case basis.	Same as Proposed RMP.	Same as Proposed RMP.
	Fire retardant drops by air tankers would be prohibited within 200 feet of water.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	Prescribed burning would be conducted so that the Class II air quality standard would be maintained. A Wyoming DEQ permit would be required before any prescribed burning is done. Smoke and pollution would be minimized as described in the *Smoke Management Guidebook* (USDI, BLM 1985).	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	Use of fire for disposal of slash and residue from timber sales and thinning activities would be allowed when necessary to reduce the danger of wildfire and to reduce the volume of slash and debris or hazardous fuel levels in an area.	Same as Proposed RMP.	As a general rule, fire would be used for disposal of slash and debris from timber sale and thinning areas.	Same as Proposed RMP.

Table 2-1
Summary of Alternatives, Including the Proposed Resource Management Plan

Land Use or Resource	Proposed Resource Management Plan	Current Management Alternative A	Alternative B	Alternative C
FIRE MANAGEMENT (continued) (public land surface only)	Surface-disturbing and disruptive activities associated with all types of fire management would be subject to appropriate mitigation measures (appendix E).	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
FOREST RESOURCES MANAGEMENT (public land surface only)	**MANAGEMENT OBJECTIVE:** Maintain and enhance the health, productivity, and biological diversity of forest and woodland ecosystems. Provide a balance of natural resource benefits and uses, including opportunities for commercial forest production. (Also see appendix F.)	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	MANAGEMENT ACTIONS: Public lands available for management of forest products (11,935 acres) would be managed by implementing sound silvicultural activities that include two- or three-cut shelterwood harvest, commercial, and precommercial thinnings.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	The maximum allowable harvest level would be set at 4.7 million board feet (mmbf) per decade. Timber would be harvested on an evenflow basis.	Same as Proposed RMP.	The maximum allowable timber harvest would be set at 13.9 mmbf the first decade, 9.7 mmbf the second and third decades, then dramatic declines in the next four decades.	Same as Proposed RMP.

Table 2-1
Summary of Alternatives, Including the Proposed Resource Management Plan

Land Use or Resource	Proposed Resource Management Plan	Current Management Alternative A	Alternative B	Alternative C
FOREST RESOURCES MANAGEMENT (continued) (public land surface only)	Road construction for harvesting timber or for conducting forest management practices would be prohibited on slopes greater than 25%, unless site-specific environmental analyses demonstrate that adverse effects can be mitigated or avoided.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	Skidder-type yarding would be prohibited on slopes greater than 45%. Other logging operations on slopes steeper than 45% would be limited to technically, environmentally acceptable methods such as cable yarding.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	Management of forest products on approximately 3,864 acres would be limited because of slope restrictions or inaccessibility for mechanical harvest methods that include two- and three-cut shelter-wood harvest, commercial, and precommercial thinnings.	Same as Proposed RMP.	Management of forest products on approximately 3,864 acres would implement silvicultural activities that include two- and three-cut shelter-wood harvest, commercial, and precommercial thinnings and would not be limited because of slope restrictions.	Same as Proposed RMP.
	About 9,084 acres would be made available for forest products harvest only when tailored specifically to benefit other identified resource values.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	About 417 acres of forestlands are not available for management of timber products due to unique riparian areas.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.

Table 2-1
Summary of Alternatives, Including the Proposed Resource Management Plan

Land Use or Resource	Proposed Resource Management Plan	Current Management Alternative A	Alternative B	Alternative C
FOREST RESOURCES MANAGEMENT (continued) (public land surface only	Roads and landings developed for forest products removal would be rehabilitated unless it was determined that they were useful for other management purposes.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	About 600 acres of timber stand improvement and precommercial thinning would be conducted per decade.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	To maintain biodiversity and the old growth component of the forest ecosystem, forested areas on public lands would be managed to maintain approximately 5% old growth.	Old growth components of the forest ecosystem on public lands would not be maintained.	Same as Proposed RMP.	Same as Proposed RMP.
	Minor forest products (firewood, posts, poles, Christmas trees, and other minor products) would be made available on a demand basis.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP..
	Surface-disturbing and disruptive activities associated with all types of forest management practices would be subject to appropriate mitigation measures (appendix E).	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
GEOLOGY AND MINERAL RESOURCES MANAGEMENT (BLM-administered federal minerals) ***General***	**MANAGEMENT OBJECTIVE:** Maintain or enhance opportunities for mineral exploration and development while maintaining other resource values. (Also see appendix F).	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.

Table 2-1
Summary of Alternatives, Including the Proposed Resource Management Plan

Land Use or Resource	Proposed Resource Management Plan	Current Management Alternative A	Alternative B	Alternative C
GEOLOGY AND MINERAL RESOURCES MANAGEMENT (continued) (BLM-admnistered federal minerals) ***General*** (continued)	**MANAGEMENT ACTIONS:** Surface-disturbing and disruptive activities associated with all types of minerals exploration and development and with geophysical exploration would be subject to appropriate mitigation measures (appendix E).	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
Leasable Minerals **Coal**	Coal classifications on about 194,500 acres of federal coal lands in the planning area would be terminated. These land classifications, for the protection of the federal coal, are no longer serving or needed for their intended purpose.	Coal classifications for the protection of the federal coal on about 194,500 acres of federal coal lands in the planning area would remain in effect.	Same as Proposed RMP.	Same as Proposed RMP.
	As coal lease applications are received, the coal screening process, including application of the coal unsuitability criteria, would be applied on a case-by-case basis. The Newcastle RMP would be amended if necessary.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
Oil and Gas	**MANAGEMENT ACTIONS:** Parcels would be leased with appropriate stipulations for protection of other resource values.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.

Table 2-1
Summary of Alternatives, Including the Proposed Resource Management Plan

Land Use or Resource	Proposed Resource Management Plan	Current Management Alternative A	Alternative B	Alternative C
GEOLOGY AND MINERAL RESOURCES MANAGEMENT (continued) (BLM-administered federal minerals) **Other Leasable Minerals**	**MANAGEMENT ACTIONS:** Leasing of other leasable federal minerals would be considered on a case-by-case basis and would be subject to the same or similar resource protection and mitigation requirements as those applied to oil and gas leases and rights-of-way.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
Locatable Minerals	**MANAGEMENT ACTIONS:** Other than lands withdrawn from mineral location (table 3-7), the planning area would be open to mineral location, exploration and development.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	A plan of operations would be required for any surface-disturbing activity, regardless of size, in designated ACECs and in areas closed to off-road vehicular travel.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
Salable Minerals	**MANAGEMENT ACTIONS:** Other than areas that would be closed, the BLM-administered federal mineral estate in the planning area would be open to mineral materials sales and development subject to appropriate conditional requirements (table 3-7).	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	Extraction of mineral materials would be permitted from BLM-administered public surface sites whenever possible to avoid use of private lands where the mineral materials are federally owned.	Same as Proposed RMP.	Same as Proposed RMP.	Extraction of mineral materials would be made available to other agencies and municipalities without regard to surface ownership.

Table 2-1
Summary of Alternatives, Including the Proposed Resource Management Plan

Land Use or Resource	Proposed Resource Management Plan	Current Management Alternative A	Alternative B	Alternative C
GEOLOGY AND MINERAL RESOURCES MANAGEMENT (continued) (BLM-administered federal minerals) ***Salable Minerals*** (continued)	Free use of mineral materials from split-estate lands (nonfederal surface over federal minerals) would be discouraged whenever possible and would be allowed only when public land surface sites are not available.	Same as Proposed RMP.	Same as Proposed RMP.	Free use of mineral materials from split-estate land (nonfederal surface over federal minerals) would not be discouraged.
	Mineral material sale areas, free use areas, community pits, and common use areas would be established as needed in accordance with other resource uses and values.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	A reclamation plan would be required for all surface disturbance.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	Reclamation of private land surfaces would be the responsibility of the entity requesting the use in agreement with the private surface owner.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
Geologic Hazards	**MANAGEMENT ACTIONS:** Any request received by the BLM for a permitted activity on public land surface in a landslide area would be evaluated to determine if there is a threat to public health or safety (map 3-8). Specific construction requirements may be required in these areas.	No special consideration would be given to potential landslide areas on public land surface unless a specific problem were identified during a permitted activity.	Same as Proposed RMP.	Same as Proposed RMP.

Table 2-1
Summary of Alternatives, Including the Proposed Resource Management Plan

Land Use or Resource	Proposed Resource Management Plan	Current Management Alternative A	Alternative B	Alternative C
GEOLOGY AND MINERAL RESOURCES MANAGEMENT (continued) (BLM-administered federal minerals) ***Geophysical Exploration***	**MANAGEMENT OBJECTIVE:** Provide opportunity for exploration of mineral resources and geologic data while protecting other resource values on BLM-administered public land surface. (Also see Appendix F.)	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	MANAGEMENT ACTIONS: All parts of the planning area that are open to oil and gas leasing, exploration, and development would be open to geophysical exploration subject to appropriate mitigation requirements. Mitigation may include seasonal use restrictions, restrictions during wet or muddy periods, explosive charge restrictions, and other restrictions where disturbance in an area is determined to be undesirable.	Same as Proposed RMP.	There would be no restrictions on geophysical exploration activities.	Same as Proposed RMP.
	Explosive charges would not be allowed if environmental analysis shows that unacceptable adverse impacts would occur.	There would be no restrictions for the use of explosive charges.	Same as Proposed RMP.	Same as Proposed RMP
	On lands where surface-disturbing activities would be prohibited or on public lands closed to ORV use (see Glossary), casual use geophysical exploration would be allowed. (Casual use for geophysical exploration is described in 43 CFR 3150.05(b).)	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.

Table 2-1
Summary of Alternatives, Including the Proposed Resource Management Plan

Land Use or Resource	Proposed Resource Management Plan	Current Management Alternative A	Alternative B	Alternative C
GEOLOGY AND MINERAL RESOURCES MANAGEMENT (continued) (BLM-administered federal minerals) ***Paleontology Resources*** **(all public land interests)**	**MANAGEMENT OBJECTIVE:** Manage paleontological resources that are part of the BLM-administered public land surface estate for their informational, educational, scientific, and recreational uses.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	MANAGEMENT ACTIONS: Vertebrate fossils could be collected from public land only under a paleontological resources use permit issued by the BLM.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	A paleontological resources use permit issued by the BLM may be required for the collection of noteworthy plant and invertebrate fossils from public lands.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	Individuals may collect up to 25 pounds of petrified wood, plus one piece, per day from public land surface. They may collect a total of 250 pounds per year without a permit. However, this material is for personal use only and may not be sold, bartered, or traded.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	Individuals may collect reasonable amounts of common invertebrate fossils for personal use. This material may not be used for commercial purposes.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.

Table 2-1
Summary of Alternatives, Including the Proposed Resource Management Plan

Land Use or Resource	Proposed Resource Management Plan	Current Management Alternative A	Alternative B	Alternative C
GEOLOGY AND MINERAL RESOURCES MANAGEMENT (continued) (BLM-administered federal minerals) ***Paleontology Resources*** **(continued)**	Assessment and/or mitigation of impacts to paleontological resources may be required on federal mineral leases in accordance with BLM policy. If suspected fossil materials are uncovered during construction, the operator would be required to stop work immediately and contact the authorized BLM officer. Activities would be brought to a halt until the authorized officer can assess the situation and advise whether any mitigating measures need to be undertaken before the operations can continue. If fossils are found and operations are adversely affected, a suspension of operations would be granted.	Same as Proposed RMP.	A complete paleontological inventory identifying important formations would be completed for the entire planning area.	Same as Proposed RMP.
HAZARDOUS MATERIALS AND OTHER HAZARDS MANAGEMENT (public land interests only)	**MANAGEMENT OBJECTIVE:** Protect public and environmental health and safety on BLM-administered public lands, comply with applicable federal and state laws, prevent waste contamination due to any BLM-authorized actions, minimize federal exposure to the liabilities associated with waste management on public lands, and integrate hazardous materials and waste management policies and controls into all BLM programs. (Also see appendix F.)	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.

Table 2-1
Summary of Alternatives, Including the Proposed Resource Management Plan

Land Use or Resource	Proposed Resource Management Plan	Current Management Alternative A	Alternative B	Alternative C
HAZARDOUS MATERIALS AND OTHER HAZARDS MANAGEMENT (continued) (public land interests only)	**MANAGEMENT ACTIONS:** For BLM-authorized activities that involve hazardous materials or their use, precautionary measures would be used to guard against releases or spills into the environment.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	When discovered, BLM-administered public land sites contaminated with hazardous wastes would be reported, secured, and cleaned up according to applicable federal and state regulations and contingency plans. Parties responsible for contamination would be liable for cleanup and resource damage costs, as prescribed in federal and state regulations.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	If hazards should be identified, the BLM would provide appropriate warnings and establish precautions for safety hazards associated with the use of any areas on BLM-administered public lands.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	Surface-disturbing and disruptive activities associated with all types of hazardous materials and waste management would be subject to appropriate mitigation measures (appendix E).	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.

Table 2-1
Summary of Alternatives, Including the Proposed Resource Management Plan

Land Use or Resource	Proposed Resource Management Plan	Current Management Alternative A	Alternative B	Alternative C
LANDS AND REALTY MANAGEMENT (public land surface only)	**MANAGEMENT OBJECTIVE:** Support the multiple-use management goals of the various BLM resource programs; respond to public requests for land use authorizations, sales, and exchanges; and, acquire access to serve administrative and public needs. (Also see appendix F.)	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	MANAGEMENT ACTIONS: Utility/transportation systems would be located adjacent to existing utility/transportation systems whenever practical. Areas to be avoided for new facility placement and routes would be identified on a case-by-case basis rather than attempting to establish new utility corridors.	Same as Proposed RMP.	Utility corridors would be established on BLM-administered public land surface to include as many existing facilities as possible. Future rights-of-way would be routed through these corridors whenever possible.	Same as Proposed RMP.
	Areas within ¼ mile of developed or semideveloped recreation sites would be avoidance areas for development activities such as roads, power lines, pipelines, and well pads. This requirement could be modified by the authorized officer. However, these areas would be open to development activities specifically for the purpose of recreation site facilities.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.

Table 2-1
Summary of Alternatives, Including the Proposed Resource Management Plan

Land Use or Resource	Proposed Resource Management Plan	Current Management Alternative A	Alternative B	Alternative C
LANDS AND REALTY MANAGEMENT (continued) (public land surface only)	Projects would be designed to meet the objectives of the established visual classifications and would include appropriate mitigation. Facilities, including those related to existing or new wells, structures, power lines, and linear rights-of-way would be screened, painted, or designed to blend with the surrounding landscape.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	Areas within 500 feet of 100-year floodplains, wetlands, or perennial streams on BLM-administered public lands would be avoidance areas for surface-disturbing activities unless modified by the authorized officer.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	Landownership adjustment actions involving BLM-administered public lands (exchanges or sales, recreation and public purpose (R&PP) leases and patents, withdrawals and transfers of administrative jurisdiction of public lands) would be considered on a case-by-case basis.	Same as Proposed RMP.	Landownership adjustments would not be pursued.	Same as Proposed RMP.
	The preferred method of landownership adjustment would be land exchanges. Appendix B outlines the landownership adjustment strategy to be followed.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.

Table 2-1
Summary of Alternatives, Including the Proposed Resource Management Plan

Land Use or Resource	Proposed Resource Management Plan	Current Management Alternative A	Alternative B	Alternative C
LANDS AND REALTY MANAGEMENT (continued) (public land surface only)	There would be no requirement to avoid reduction of public land acreages.	Same as Proposed RMP.	Exchanges would require that the total acreage of BLM-administered public lands in the planning area would not decline.	Same as Proposed RMP.
	The planning area would be open to operation of the public land laws except for the 1,152 acres closed to location, sale, or entry (437 acres power site classification; 715 acres Forest Service withdrawal; table 3-7; map 3-9).	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	The coal classifications that segregate 194,520 acres of coal from disposal would be removed since they no longer serve the purpose for which they were intended.	Coal classifications on 194,520 acres of public land would remain in effect.	Same as Proposed RMP.	Same as Proposed RMP.
	As determined on a case-by-case basis, easements would be pursued to provide access to public lands to support the objectives of other resource programs.	Same as Proposed RMP.	No attempt would be made to acquire additional access to public lands.	Same as Proposed RMP.
	The planning area would be open for rights-of-way development. Proposals would be addressed on an individual basis with emphasis on avoiding conflict or sensitive areas.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	Surface-disturbing and disruptive activities associated with all types of rights-of-way construction and maintenance would be subject to appropriate mitigation measures (appendix E).	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.

Table 2-1
Summary of Alternatives, Including the Proposed Resource Management Plan

Land Use or Resource	Proposed Resource Management Plan	Current Management Alternative A	Alternative B	Alternative C
LIVESTOCK GRAZING MANAGEMENT (public land surface only)	**MANAGEMENT OBJECTIVE:** Maintain or improve forage production and range condition to provide a sustainable resource base for livestock grazing on the public lands while improving wildlife habitat and watershed conditions. (Also see appendix F.)	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	MANAGEMENT ACTIONS: Livestock grazing on BLM-administered public lands would be authorized in a manner consistent with sound range management principles and to be consistent with other resource values.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	The authorized grazing use on the BLM-administered public land surface would not exceed recognized active preference (48,818 animal unit months--AUMs).	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	Implementation of grazing management plans, monitoring studies, and the construction of range improvements based on identified need would continue unless documented damage to other resource values is shown.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	When prescribed fire and mechanical or biological treatments can be used effectively to manage vegetation, they would be preferred over chemical treatments.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.

Table 2-1
Summary of Alternatives, Including the Proposed Resource Management Plan

Land Use or Resource	Proposed Resource Management Plan	Current Management Alternative A	Alternative B	Alternative C
LIVESTOCK GRAZING MANAGEMENT (continued) (public land surface only)	BLM would coordinate efforts with other federal authorities and with state and local authorities to implement safe and effective prairie dog control measures on public lands when prairie dogs are determined to be a threat to human health and safety or are causing resource damage. Resource damage would be documented by BLM personnel when reported by the grazing lessee, adjacent landowners, or other interests. This could include resource damage occurring on private or state lands from prairie dog towns located on BLM-administered public lands. Animal damage control activities would be subject to established procedures and policies as outlined in the national and state level memoranda of understanding between BLM and APHIS and the animal damage control plan for the planning area. Human health and safety determinations would be made by the state of Wyoming, Department of Health or by officers of the US Center for Disease Control.	Prairie dog control on public lands would be conducted when requested by a grazing lessee or adjacent landowner	Same as Proposed RMP.	Same as Proposed RMP.
	There would be no control of the size of prairie dog towns on public lands unless resource damage were occurring or human health and safety were threatened.	Same as Proposed RMP.	Prairie dog towns would not be allowed to exceed the size of the town as of October 1, 1992.	Size limitations of prairie dog towns on public lands would be determined on a case-by-case basis.

Table 2-1
Summary of Alternatives, Including the Proposed Resource Management Plan

Land Use or Resource	Proposed Resource Management Plan	Current Management Alternative A	Alternative B	Alternative C
LIVESTOCK GRAZING MANAGEMENT (continued) (public land surface only)	New prairie dog towns would be allowed to become established on public lands.	Same as Proposed RMP.	New prairie dog towns would not be allowed to become established on public lands.	Same as Proposed RMP.
	Unless one of the above situations were occurring, prairie dog control on BLM-administered public land in the planning area would not be allowed. Prairie dogs and their towns are an important component of the prairie ecosystem and are valuable in providing habitat and a food source for a number of wildlife species, some of which are species of special management concern.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	Permitting for livestock grazing use up to recognized active preference would continue until a change in resource conditions indicates that an adjustment is needed. Note that numbers of grazing allotments in each category (table 3-8) are subject to change as ecological range conditions change.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	Any adjustments in livestock grazing use would be made as a result of monitoring and consultation with grazing permittees. Monitoring studies would be conducted using current BLM-approved methodology.	Same as Proposed RMP.	Livestock grazing use would be adjusted according to the range condition and potential up to the established preference use.	Same as Proposed RMP.

Table 2-1
Summary of Alternatives, Including the Proposed Resource Management Plan

Land Use or Resource	Proposed Resource Management Plan	Current Management Alternative A	Alternative B	Alternative C
LIVESTOCK GRAZING MANAGEMENT (continued) (public land surface only)	Monitoring would be continued following adjustments in grazing use to assure that grazing and other management objectives are being met.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	Interdisciplinary rangeland monitoring studies would be conducted on an allotment category priority basis (I, M, and C) to detect changes in range condition and trend, and to determine if vegetation management objectives are being met for all resource uses (livestock grazing, watershed, riparian, and wildlife).	Monitoring studies would be established in "I" category allotments to monitor the effects of livestock grazing on the vegetation resource. Monitoring in other allotments may occur if determined to be necessary.	Monitoring studies would be established in allotments representative of ecological sites throughout the planning area.	Same as Proposed RMP.
	Based on monitoring, the effectiveness of on-the-ground management toward meeting RMP and various resource activity plan objectives would be evaluated. Any rangeland studies would be carried out in accordance with approved standards and guidelines. Kind of livestock and seasons of livestock use may be modified to meet established interdisciplinary objectives or to prevent resource damage.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.

Table 2-1
Summary of Alternatives, Including the Proposed Resource Management Plan

Land Use or Resource	Proposed Resource Management Plan	Current Management Alternative A	Alternative B	Alternative C
LIVESTOCK GRAZING MANAGEMENT (continued) (public land surface only)	Interdisciplinary monitoring studies would be established in riparian sites. The priority for establishing the studies would be "I," "M," and "C" category allotments. Studies in riparian areas in category "M" and "C" allotments would be established as workload allows or as a need is identified.	No riparian studies would be established.	Same as Proposed RMP.	Same as Proposed RMP.
	Developed and semideveloped recreation sites would be closed to livestock grazing.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	In conjunction with the wildlife habitat management and water resources management programs, specific riparian management guidelines would be developed and implemented in all allotments, with priority given to category "I" grazing allotments. These guidelines could apply to such things as protective fencing, changes in livestock seasons of use, and project work to enhance and improve riparian zones.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	Surface-disturbing and disruptive activities associated with all types of range project construction and maintenance would be subject to appropriate mitigation measures (appendix E).	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.

Table 2-1
Summary of Alternatives, Including the Proposed Resource Management Plan

Land Use or Resource	Proposed Resource Management Plan	Current Management Alternative A	Alternative B	Alternative C
RECREATION RESOURCES MANAGEMENT (public land surface only)	**MANAGEMENT OBJECTIVE:** Provide outdoor recreational opportunities on BLM-administered public land while providing for resource protection, visitor services, and the health and safety of public land visitors. (Also see appendix F.)	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	MANAGEMENT ACTIONS: The BLM-administered public land in the planning area would be available for recreation use subject to appropriate restrictions for the protection of other resource values.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	Response to public requests, including dispersed recreation opportunities (hunting, rockhounding, and sightseeing), information, permitting of guide and outfitter activities on public land, limited field patrols of public land during hunting seasons, and boundary marking of areas where problems or conflicts occur would be provided.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	Acquisition of lands with recreation potential would be pursued (map 3-13).	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	Access to BLM-administered public land surface in selected areas would be provided through purchase of access, exchange of use agreements, or exchange of lands (map 3-13) based on a willing buyer/seller agreement.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.

Table 2-1
Summary of Alternatives, Including the Proposed Resource Management Plan

Land Use or Resource	Proposed Resource Management Plan	Current Management Alternative A	Alternative B	Alternative C
RECREATION RESOURCES MANAGEMENT (continued) (public land surface only)	A recreation project plan, livestock water development, and wildlife habitat management plan would be completed for the development of the proposed Meadow Draw Reservoir recreation site (T. 45 N., R. 63 W., section 8). Development of additional recreation sites on public lands would be done as needs are identified.	Same as Proposed RMP.	No recreation site would be developed.	Same as Proposed RMP.
	Primitive camping sites would be established in Crook County (T. 56 N., R. 66 W., sections 5, 8, and T. 56 N., R. 67 W., section 1) to provide better control of camping use, fire, and trash collection. Additional sites would be established as they are identified if the need justifies development (map 3-13).	No campsites would be established.	No developed campsites would be provided. Camping would be allowed on any public lands not closed to camping.	Developed campsites would be provided with hard surface parking and camping areas, drinking water, trash, and sanitary facilities.
	Cutting trees and firewood for recreational purposes would be restricted to dead and down wood.	There would be no restrictions on firewood cutting.	No firewood cutting would be allowed.	Same as Proposed RMP.
	Areas within ¼ mile of developed or semideveloped recreation sites on public land would be avoidance areas for development activities (such as roads, power lines, pipelines, well pads.) This requirement could be modified by the authorized officer. However, these areas would be open to development activities specifically for the purpose of recreation site facilities.	Same as Proposed RMP.	Development activities would not be restricted within ¼ mile of developed or semideveloped recreation sites. Such developments would be subject to design or color standards to be as compatible to the recreation site as possible.	Development would not be allowed within ¼ mile of developed or semideveloped recreation sites.

Table 2-1
Summary of Alternatives, Including the Proposed Resource Management Plan

Land Use or Resource	Proposed Resource Management Plan	Current Management Alternative A	Alternative B	Alternative C
RECREATION RESOURCES MANAGEMENT (continued) (public land surface only)	Camping would be allowed on developed recreation sites or on undeveloped BLM-administered public land surface for a period of not more than 14 days within 28 consecutive days. After this time the camp must be moved to a site at least 5 miles away.	Same as Proposed RMP.	Same as Proposed RMP.	A 14-, consecutive-day camping limit would be established at any location in the planning area open for camping with no further restrictions.
	The BLM would cooperate with other agencies and private landowners to explore opportunities to interpret a portion of the Cheyenne to Deadwood Trail.	No similar action.	Same as Proposed RMP.	Same as Proposed RMP.
	Selected tracts of BLM-administered public land surface within T. 43-46 N., R. 60 W. would be designated as the Stateline SRMA to emphasize recreation-related opportunities. See the "Special Management Areas" section.	No SRMA designation would be pursued.	Same as Proposed RMP.	Same as Proposed RMP.
	BLM-administered lands in the remainder of the planning area (except for Whoopup Canyon ACEC) would be designated an extensive recreational management area (ERMA).	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	Surface-disturbing and disruptive activities associated with constructing and using roads, campgrounds, interpretive sites, and other recreational facilities would be subject to appropriate mitigation measures (appendix E).	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.

Table 2-1
Summary of Alternatives, Including the Proposed Resource Management Plan

Land Use or Resource	Proposed Resource Management Plan	Current Management Alternative A	Alternative B	Alternative C
RECREATION RESOURCES MANAGEMENT (continued) (public land surface only) **Off-road Vehicle Management (public land surface only)**	**MANAGEMENT OBJECTIVE:** Provide opportunities for ORV use in conformance with other resource management objectives. (Also see appendix F.)	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	MANAGEMENT ACTIONS: Unless otherwise specified, ORV travel in the planning area would be limited to **existing** roads and trails. Seasonal restrictions for ORVs could be applied in crucial wildlife habitats (strutting grounds, nesting areas, spawning beds, crucial big game winter ranges, parturition areas) as needed. Over-the-snow vehicle travel would be required to follow the same prescriptions as for other vehicles.	No similar action.	Off-road vehicle use would be allowed on public lands with public access (175,000 acres of legal access; 110,000 acres of practical vehicle access). All other public lands would be limited to existing roads and trails.	Same as Proposed RMP.
	On areas designated as limited to **existing** roads and trails, the performance of necessary tasks requiring off-road use of a vehicle would be allowed provided resource damage does not occur. Examples of necessary tasks include constructing or repairing authorized range improvements.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.

Table 2-1
Summary of Alternatives, Including the Proposed Resource Management Plan

Land Use or Resource	Proposed Resource Management Plan	Current Management Alternative A	Alternative B	Alternative C
RECREATION RESOURCES MANAGEMENT (continued) (public land surface only) **Off-road Vehicle Management (continued) (public land surface only)**	Driving would be prohibited on wet soils and on slopes greater than 25% if unnecessary damage to vegetation, soils, or water quality would result.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	The BLM-administered public lands within the Whoopup Canyon ACEC are **closed** to vehicle use except for administrative purposes.	No similar action.	Same as Proposed RMP.	Same as Proposed RMP.
SOILS MANAGEMENT (public land surface only)	**MANAGEMENT OBJECTIVE:** Maintain soil cover and productivity and provide for improvement in areas where soil productivity may be below potential on BLM-administered public land surface. (Also see appendix F.)	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	MANAGEMENT ACTIONS: Protecting and enhancing soil resources on public land surface would be accomplished through site-specific mitigation of individual surface-disturbing actions. Mitigation measures such as special construction techniques would be required on highly erosive or fragile soils.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.

Table 2-1
Summary of Alternatives, Including the Proposed Resource Management Plan

Land Use or Resource	Proposed Resource Management Plan	Current Management Alternative A	Alternative B	Alternative C
SOILS MANAGEMENT (continued) (public land surface only)	Land uses and surface-disturbing activities on BLM-administered public land surface would be designed to promote reduction of channel erosion where it would result in severe losses of riparian habitat and reduction of accelerated surface erosion in areas having severe erosion problems or susceptibility. To the extent practical, damaged wetland and riparian areas would be restored.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
VEGETATION RESOURCES MANAGEMENT (public land surface only)	**MANAGEMENT OBJECTIVE:** Maintain or improve the diversity of plant communities to support timber production, livestock grazing, wildlife habitat, watershed protection, and acceptable visual resources; and reduce the spread of noxious weeds. (Also see appendix F.)	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	MANAGEMENT ACTIONS: Protect and enhance the vegetation resources on BLM-administered public land surface through site-specific mitigation of surface-disturbing actions.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.

Table 2-1
Summary of Alternatives, Including the Proposed Resource Management Plan

Land Use or Resource	Proposed Resource Management Plan	Current Management Alternative A	Alternative B	Alternative C
VEGETATION RESOURCES MANAGEMENT (continued) (public land surface only) ***Noxious Weeds*** **(public land surface only)**	Noxious weeds and other undesirable vegetation would be controlled in conjunction with counties, APHIS, and other agencies and affected interests, consistent with the *Wyoming Record of Decision for the Final EIS Addressing Vegetation Treatment on BLM Lands in the 13 Western States* (USDI, BLM 1991a).	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	Control of noxious weeds, in priority order, may include the use of species-specific insects, livestock grazing, mechanical methods, or chemical methods. If herbicides are proposed for use, those with minimum toxicity to wildlife and fish would be selected. As appropriate, buffer zones would be provided along streams, rivers, lakes and riparian areas, including riparian areas along ephemeral and intermittent streams.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	Treatments would avoid bird nesting seasons and other times when loss of cover or disturbance by equipment would be detrimental to wildlife. Projects that may affect threatened or endangered plants or animals would be postponed or modified to protect the presence of these species. In such cases, the BLM would consult with the US Fish and Wildlife Service (FWS) as required by the Endangered Species Act.	Same as Proposed RMP	Same as Proposed RMP	Same as Proposed RMP

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Table 2-1
Summary of Alternatives, Including the Proposed Resource Management Plan

Land Use or Resource	Proposed Resource Management Plan	Current Management Alternative A	Alternative B	Alternative C
VEGETATION RESOURCES MANAGEMENT (continued) (public land surface only) ***Special Status Plant Species*** **(public land interests only)**	**MANAGEMENT OBJECTIVE:** Maintain or enhance essential and important habitats for special status plant species (for example, sensitive and threatened and endangered plants) on BLM-administered public land surface and prevent the need for any special status plant species from becoming listed as threatened and endangered.	No similar objective.	Same as Proposed RMP.	Same as Proposed RMP.
	Sensitive species designation for species identified as being present or potentially present in the resource area would be requested (table 3-20).	No similar action.	Same as Proposed RMP.	Same as Proposed RMP.
	A search for species would be required before allowing surface-disturbing activities in identified potential habitat locations.	No similar action.	Same as Proposed RMP.	Same as Proposed RMP.
	Threatened, endangered, and sensitive plant surveys and general floristic surveys would be conducted on BLM-administered public land surface to note locations and to obtain recommendations for management.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	Surface-disturbing and disruptive activities associated with all types of vegetation management would be subject to appropriate mitigation measures (appendix E).	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.

Table 2-1
Summary of Alternatives, Including the Proposed Resource Management Plan

Land Use or Resource	Proposed Resource Management Plan	Current Management Alternative A	Alternative B	Alternative C
VISUAL RESOURCES MANAGEMENT (public land surface only)	**MANAGEMENT OBJECTIVE:** Maintain or improve scenic values, visual quality, and establish visual resource management priorities in conjunction with other resource values. (Also see appendix F.)	No designated VRM areas exist.	Same as Proposed RMP.	Same as Proposed RMP.
	MANAGEMENT ACTIONS: Visual resources would be managed in accordance with objectives for VRM classes that have been assigned to the planning area (see "Glossary"). Map 3-14 shows the VRM management areas.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	VRM requirements would be applied only to public lands or to BLM-approved mineral exploration and development activities on split-estate lands.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	Visual resources would be considered before authorizing land uses that may affect them.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	As appropriate, facilities or structures such as power lines, oil wells, and storage tanks would be screened, painted, and otherwise designed to blend with the surrounding landscape.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.

Table 2-1
Summary of Alternatives, Including the Proposed Resource Management Plan

Land Use or Resource	Proposed Resource Management Plan	Current Management Alternative A	Alternative B	Alternative C
WATERSHED AND WATER RESOURCES MANAGEMENT (public land surface only)	**MANAGEMENT OBJECTIVE:** Maintain or improve surface and groundwater quality consistent with existing and anticipated uses and applicable state and federal water quality standards; provide for availability of water to facilitate authorized uses, and to minimize harmful consequences of erosion and surface runoff from BLM-administered public land surface. (Also see appendix F.)	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	MANAGEMENT ACTIONS: Protect and enhance the water resource through site-specific mitigation of individual actions.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	When herbicides are proposed for use, those with minimum toxicity to wildlife and fish would be selected. As needed, buffer zones would be provided along streams, rivers, lakes and riparian areas, including riparian areas along ephemeral and intermittent streams.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	Areas within 500 feet of 100-year floodplains, wetlands, or perennial streams, would be avoidance areas for surface-disturbing activities.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.

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Table 2-1
Summary of Alternatives, Including the Proposed Resource Management Plan

Land Use or Resource	Proposed Resource Management Plan	Current Management Alternative A	Alternative B	Alternative C
WATERSHED AND WATER RESOURCES MANAGEMENT (continued) (public land surface only)	Areas within 100-year floodplains, wetlands, or riparian areas would be closed to placement or construction of structures (fuel or chemical storage tanks, well pads, buildings, or other types of structures), where there is potential for property, ecological, and general resource damage and human health and safety hazards from a flooding event.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	Land use and surface-disturbing activities on BLM-administered public lands would be designed to promote reduction of channel erosion where it would result in severe reduction of riparian habitat, and to promote reduction of accelerated surface erosion in areas having severe erosion problems or susceptibility. To the extent practical, damaged wetland and riparian areas would be restored.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	The protection of watershed resources would be considered in the analysis of BLM- and industry-initiated projects. As needed, watershed conservation practices and state of Wyoming Best Management Practices would be applied.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.

Table 2-1
Summary of Alternatives, Including the Proposed Resource Management Plan

Land Use or Resource	Proposed Resource Management Plan	Current Management Alternative A	Alternative B	Alternative C
WATERSHED AND WATER RESOURCES MANAGEMENT (continued) (public land surface only)	Surface-disturbing and disruptive activities associated with watershed management would be subject to appropriate mitigation measures (appendix E).	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
WILDLIFE HABITAT MANAGEMENT (public land surface only)	**MANAGEMENT OBJECTIVE:** 1) Maintain biological diversity of plant and animal species; 2) support WGFD strategic plan population objective levels to the extent practical and to the extent consistent with BLM multiple use management requirements; 3) maintain, and where possible, improve forage production and quality of rangelands, fisheries, and wildlife habitat; and 4) to the extent possible, provide habitat for threatened and endangered and special status plant and animal species on all public lands in compliance with the Endangered Species Act (ESA) and approved recovery plans. (Also see appendix F.)	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.

Table 2-1
Summary of Alternatives, Including the Proposed Resource Management Plan

Land Use or Resource	Proposed Resource Management Plan	Current Management Alternative A	Alternative B	Alternative C
WILDLIFE HABITAT MANAGEMENT (continued) (public land surface only)	**MANAGEMENT ACTIONS:** BLM would coordinate efforts with other federal authorities and with state and local authorities to implement safe and effective prairie dog control measures on public lands when prairie dogs are determined to be a threat to human health and safety or are causing resource damage. Resource damage would be documented by BLM personnel when reported by the grazing lessee, adjacent landowners, or other interests. This could include resource damage occurring on private or state lands from prairie dog towns located on BLM-administered public lands. Animal damage control activities would be subject to established procedures and policies as outlined in the national and state level memoranda of understanding between BLM and APHIS and the Casper District animal damage control plan. Human health and safety determinations would be made by the state of Wyoming, Department of Health or by officers of the US Center for Disease Control.	Prairie dog control on public lands would be conducted when requested by a grazing lessee or adjacent landowner.	Same as Proposed RMP.	Same as Proposed RMP.
	Control of the size of prairie dog towns on public lands would not occur unless resource damage were occurring or human health and safety were threatened as stated above.	Same as Proposed RMP.	Prairie dog towns would not be allowed to exceed the size of the town as of October 1, 1992.	Size limitations of prairie dog towns on public lands would be determined on a case-by-case basis.

Table 2-1
Summary of Alternatives, Including the Proposed Resource Management Plan

Land Use or Resource	Proposed Resource Management Plan	Current Management Alternative A	Alternative B	Alternative C
WILDLIFE HABITAT MANAGEMENT (continued) (public land surface only)	New prairie dog towns would be allowed to become established on public lands.	Same as Proposed RMP.	New prairie dog towns would not be allowed to become established.	Same as Proposed RMP.
	Unless one of the above situations were occurring, prairie dog control on BLM-administered public land in the planning area would not be allowed. Prairie dogs and their towns are an important component of the prairie ecosystem and are valuable in providing habitat and a food source for a number of wildlife species, some of which are species of special management concern.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	No BLM-authorized actions would be allowed that would disrupt animals on identified crucial winter range generally from November 1 to March 30 unless approved by the authorized officer (map 3-16).	Same as Proposed RMP.	No BLM-authorized actions would be allowed that would disrupt animals on identified crucial winter range generally from November 1 to March 30.	Same as Proposed RMP.
	To protect raptors and/or sage and sharp-tailed grouse during nesting season, disruptive activity would not be allowed generally from February 1 to July 31. This limitation does not apply to maintenance and operations of existing facilities. Modification of this limitation in any year may be approved in writing by the authorized officer.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.

Table 2-1
Summary of Alternatives, Including the Proposed Resource Management Plan

Land Use or Resource	Proposed Resource Management Plan	Current Management Alternative A	Alternative B	Alternative C
WILDLIFE HABITAT MANAGEMENT (continued) (public land surface only)	Timber harvest on BLM-administered public land surface in crucial winter range would not be allowed unless the timber harvest is designed to improve winter habitat for wildlife species.	Timber harvest would be allowed in crucial winter range with actual harvest restricted from November 1 to March 30 unless approved by the area manager.	No restrictions would be placed on any timber harvests.	Same as Proposed RMP.
	Riparian habitat management guidelines would be developed and implemented in all grazing allotments, with priority given to category "I" allotments. These guidelines could apply to such things as protective fencing, livestock season of use designations, and project work to enhance and improve riparian zones to achieve a healthy and productive condition in wetland/riparian areas, and to apply the "no net loss of wetlands" policy.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	Fence construction would be required to meet current BLM fence standards.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	All fences on BLM-administered public land surface that cause documented wildlife conflicts would be removed, reconstructed, or modified, as appropriate or necessary, to eliminate or reduce the conflict.	No similar action.	Same as Proposed RMP.	Same as Proposed RMP.

Table 2-1
Summary of Alternatives, Including the Proposed Resource Management Plan

Land Use or Resource	Proposed Resource Management Plan	Current Management Alternative A	Alternative B	Alternative C
WILDLIFE HABITAT MANAGEMENT (continued) (public land surface only)	Animal damage control activities would be considered on a case-by-case basis. These activities would be subject to established procedures and policies as outlined in the national and state level memoranda of understanding between BLM and APHIS and the Casper District animal damage control plan. Areas where proposed animal damage control activities (all or specific methods) are not compatible with BLM planning and management objectives or prescriptions for other resource activities and uses will be identified on a case-by-case basis, and APHIS/WS will be requested to amend or adjust proposed animal damage control activities accordingly. Human health and safety determinations would be made by the state of Wyoming, Department of Health or by officers of the US Center for Disease Control.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	Construction of fences that interfere with movements of big game species in crucial big game winter range would not be allowed.	Same as Proposed RMP.	No restrictions would be placed on the location of fences in big game winter ranges.	Same as Proposed RMP.
	Cooperate with the WGFD to provide adequate habitat for wildlife population objectives in the approved strategic plan for wildlife populations.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.

Table 2-1
Summary of Alternatives, Including the Proposed Resource Management Plan

Land Use or Resource	Proposed Resource Management Plan	Current Management Alternative A	Alternative B	Alternative C
WILDLIFE HABITAT MANAGEMENT (continued) (public land surface only)	Surface-disturbing and disruptive activities associated with wildlife habitat management would be subject to appropriate mitigation measures (appendix E).	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
SPECIAL MANAGEMENT AREAS (public land surface only) ***Lance Creek Fossil Area***	No similar objective.	No similar objective.	No similar objective.	**MANAGEMENT OBJECTIVE:** Ensure continued public use and enjoyment of recreation activities while protecting and enhancing paleontological and cultural values; to improve opportunities for high quality outdoor recreation; and, to improve visitor services related to safety, information, interpretation, and facility development and maintenance.
	MANAGEMENT ACTIONS: There would be no ACEC designation for the BLM-administered public lands in the Lance Creek Fossil Area.	Same as Proposed RMP.	Same as Proposed RMP.	The BLM-administered public land surface would be designated as an ACEC to emphasize management of paleontological resources and to encourage future research of the paleontological record present in the area.

Table 2-1
Summary of Alternatives, Including the Proposed Resource Management Plan

Land Use or Resource	Proposed Resource Management Plan	Current Management Alternative A	Alternative B	Alternative C
SPECIAL MANAGEMENT AREAS (continued) (public land surface only) ***Proposed Stateline Special Recreation Management Area***	**MANAGEMENT OBJECTIVE:** Ensure continued public use and enjoyment of recreation activities while protecting and enhancing natural and cultural values; improve opportunities for high quality outdoor recreation; and, improve visitor services related to safety, information, interpretation, and facility development and maintenance.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	MANAGEMENT ACTIONS: Selected tracts of BLM-administered public land surface in T. 43-46 N., R. 60 W. would be designated the Stateline SRMA due to its high potential for recreational activities.	No similar action.	Same as Proposed RMP.	Same as Proposed RMP.
	Recreational trails in the proposed SRMA would be developed on BLM-administered public land surface for use by hikers, skiers, and mountain bike riders. The trails also could be nature walk trails or used by schools, volksmarches, and competitive and noncompetitive events for walking, horseback riding, mountain bike events, and cross-country skiing.	No recreation trail or other related developments would be developed on public lands.	Trails would be developed on public lands, but no other developments would occur.	Same as Proposed RMP.

Table 2-1
Summary of Alternatives, Including the Proposed Resource Management Plan

Land Use or Resource	Proposed Resource Management Plan	Current Management Alternative A	Alternative B	Alternative C
SPECIAL MANAGEMENT AREAS (continued) (public land surface only) ***Whoopup Canyon ACEC***	**MANAGEMENT OBJECTIVE:** Protect and study rock art in the Whoopup Canyon area. Expand public education and interpretation in the area. Protect cultural resource values from degradation and provide for wildlife and scenic values, and Native American concerns.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	MANAGEMENT ACTIONS: The existing Whoopup Canyon ACEC designation (about 1,440 acres of BLM-administered public land) would be retained.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	The public lands would be open to consideration for mineral leasing with a no surface occupancy stipulation (see Glossary).	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.

Table 2-1
Summary of Alternatives, Including the Proposed Resource Management Plan

Land Use or Resource	Proposed Resource Management Plan	Current Management Alternative A	Alternative B	Alternative C
SPECIAL MANAGEMENT AREAS (continued) (public land surface only) ***Whoopup Canyon ACEC*** **(continued)**	The public lands would be closed to:			
	—public access and general public use.	No similar action.	Same as Proposed RMP.	Access for public use and enjoyment would be pursued. Day use facilities such as parking, trash receptacles, trail markers, and picnic facilities would be provided.
	-- surface-disturbing activities including rights-of-way actions. The only exception to this would be those surface-disturbing activities necessary for meeting the research, education, interpretive and preservation management objectives for the area.	No similar action.	Same as Proposed RMP.	Same as Proposed RMP.
	-- mineral material sales	No similar action.	Same as Proposed RMP.	Same as Proposed RMP.
	-- mineral location (a withdrawal would be pursued)	No similar action.	Same as Proposed RMP.	Same as Proposed RMP.
	-- motorized or nonmotorized mechanical transport. Vehicle use for administrative purposes would be allowed on a case-by-case basis.	Off-road vehicle travel would be limited to existing roads and trails.	Same as Proposed RMP.	Same as Proposed RMP.
	-- the use of explosives or blasting	No similar action.	Same as Proposed RMP.	Same as Proposed RMP.
	-- use of fire retardant chemicals or those retardants containing dyes to prevent adverse effects to the petroglyphs and to protect the integrity of sociocultural values	No similar action.	Same as Proposed RMP.	Same as Proposed RMP.

Table 2-1
Summary of Alternatives, Including the Proposed Resource Management Plan

Land Use or Resource	Proposed Resource Management Plan	Current Management Alternative A	Alternative B	Alternative C
SPECIAL MANAGEMENT AREAS (continued) (public land surface only) ***Whoopup Canyon ACEC*** **(continued)**	-- geophysical exploration activity -- commercial timber harvesting and sale of other forest products	No similar action. No similar action	Same as Proposed RMP. Same as Proposed RMP.	Same as Proposed RMP. Same as Proposed RMP.
	The public lands would be managed consistent with the Class II visual resource management classification.	No similar action.	Same as Proposed RMP.	Same as Proposed RMP.
	The requirements identified above for no surface occupancy stipulations on oil and gas leases, surface-disturbing activities, mineral material sales, mineral location, the use of explosives or blasting, and geophysical exploration would be applied to split-estate lands (private surface over federal minerals), in relation to federal mineral exploration and development activities only.	No similar action.	Same as Alternative A.	Same as Proposed RMP.
	Livestock grazing objectives would be evaluated and, as needed, modified to be consistent with the management objectives for this area.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.

Table 2-1
Summary of Alternatives, Including the Proposed Resource Management Plan

Land Use or Resource	Proposed Resource Management Plan	Current Management Alternative A	Alternative B	Alternative C
SPECIAL MANAGEMENT AREAS (continued) (public land surface only) ***Whoopup Canyon ACEC*** **(continued)**	Legal access across private lands for administrative and management purposes would be pursued.	No similar action.	Same as Alternative A.	Access for public use and enjoyment would be pursued. Day use facilities such as parking, trash receptacles, trail markers, and picnic facilities would be provided.
	Visitation to and use of the area would be limited to (1) research under a cultural resources research permit; (2) traditional religious use by Native Americans; and, (3) supervised, guided tours by the BLM.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	Active research and preservation activities would be conducted. Petroglyphs, artifacts, and cultural deposits would be preserved and protected from weathering and vandalism.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	A land exchange to acquire private lands in the area determined to have significant cultural resource values would be pursued.	Same as Proposed RMP.	No attempt would be made to acquire private lands.	Same as Proposed RMP.

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CHAPTER 3
THE AFFECTED ENVIRONMENT

INTRODUCTION

This chapter contains a description of the existing physical, biological, and socioeconomic characteristics of the planning area that would be affected by the alternatives described in chapter 2. Figure 3-1, formerly named "Seasonal Sulfate and Nitrate Deposition" has been redrafted to show *annual* deposition of sulfate and nitrate. The "Socioeconomics" section has been extensively revised. Table 3-22 has been revised to reflect updated information we received during the comment period. Map 3-18, "Elk Hunt Areas" and Map 3-24, "Elk and Antelope Herd Unit Boundaries," have been updated to reflect new hunt area boundaries. Map 3-19, "Threatened or Endangered Species Habitat" in the draft, has not been included in this final EIS for the Proposed RMP. It was eliminated because the information was found not to be complete.

AIR QUALITY

Air quality in the Newcastle planning area is generally excellent with measured background concentrations of all monitored criteria pollutants well below the established standards. Criteria pollutant concentrations are measured by the State of Wyoming, DEQ. The criteria pollutants, the applicable National ambient air quality standards (NAAQS), the Wyoming ambient air quality standards (WAAQS), and the background concentrations are given in table 3-1. Other air quality related values such as acid deposition are monitored by the BLM near Newcastle. This site is part of the National Atmospheric Deposition Program/National Trends Network. Figure 3-1 shows annual sulfate and nitrate deposition at this site. Deposition rates of 10 kilograms per hectare per year (kg/ha/yr) for sulfate and 15 kg/ha/yr for nitrate are considered potentially damaging to vegetation. Visibility is not measured in this area.

In addition to the ambient air quality standards, major new sources of pollutants or modifications to sources must comply with the New Source Performance Standards (NSPS) and PSD regulations. The NSPS are emission standards based on the type of plant to be built, and thus not amenable to consideration in the planning process. The PSD regulations are ambient standards; the PSD increments are given in table 3-2. Unlike the NAAQS which are absolute values not to be exceeded more than once per year, the PSD standards are increments or increases above existing background conditions, no matter how low this background is. This serves to keep areas which have very good air quality from being degraded all the way to the NAAQS. The PSD increments are also not the same for all areas of the country. Each location is designated either PSD Class I, II, or III. Class I areas have the smallest increments and were originally designated in the 1977 amendments to the Clean Air Act. Examples of Class I areas are national parks and wilderness areas larger than 5,000 acres and any other areas so designated by the states or Indian tribes at a later date. The rest of the United States were designated as Class II. Class III requires a redesignation from Class II and has the highest increments. Currently, all BLM-administered public lands in the Newcastle area are designated Class II.

TABLE 3-1
CRITERIA AIR POLLUTANT STANDARDS AND BACKGROUND CONCENTRATIONS
(These standards are not to be exceeded more than once per year.)

Pollutant	Averaging Period	Wyoming Standard ($\mu g/m^3$)	National Standard ($\mu g/m^3$)	Background Concentration ($\mu g/m^3$)
Total suspended particulates (TSP)	24-hour	150	—	62.5
Particulate matter less than 10 micrometers in diameter (PM-10)	24-hour	150	150	10
	annual	50	50	—
Nitrogen dioxide (NO_2)	annual	100	100	2
Ozone (O_3)	1-hour	160	235	—
Sulfur dioxide (SO_2)	3-hour	1,300	—	—
	24-hour	260	365	9
	annual	60	80	1
Carbon monoxide (CO)	1-hour	40,000	40,000	3,500
	8-hour	10,000	10,000	1,500

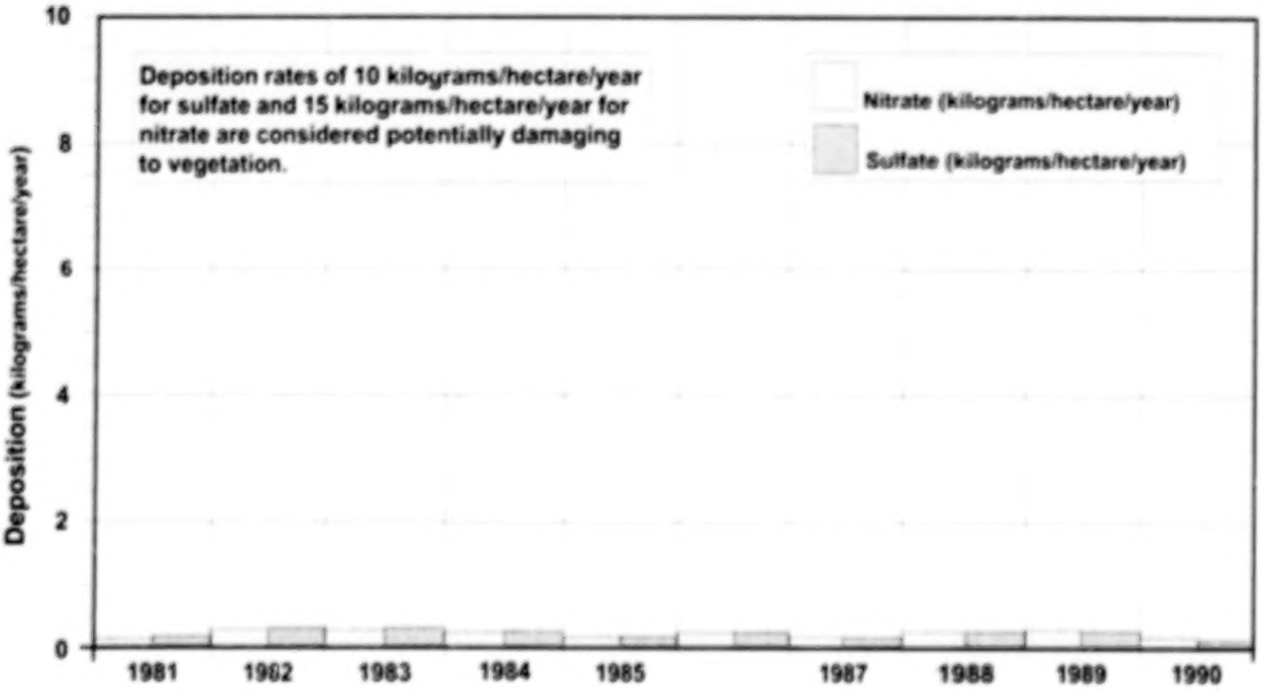
TABLE 3-2
AIR POLLUTION INCREMENTS FOR PREVENTION OF SIGNIFICANT DETERIORATION

Pollutant	Averaging Period	Class I	Class II	Class III
Total suspended particulates (TSP)	annual geometric	5	19	37
	24-hour	10	37	75
Sulfur dioxide (SO_2)	annual arithmetic	2	20	40
	24-hour	5	91	182
	3-hour	25	512	700
Nitrogen dioxide (NO_2)	annual arithmetic	2.5	25	50

Figure 3-1

Sulfate and Nitrate Deposition

Annual Averages Calculated from Monthly Measurements



Deposition rates of 10 kilograms/hectare/year for sulfate and 15 kilograms/hectare/year for nitrate are considered potentially damaging to vegetation.

BIODIVERSITY/ECOSYSTEM MANAGEMENT

There is growing recognition, globally, that a new approach to natural resource management is needed which assures that change will sustain the integrity, diversity, and productivity of entire ecological systems while continuing to provide resource products, uses, values, and services for present and future needs.

Ecosystem management is a process that considers the total environment of an area. It uses ecological, economical, social, and managerial principles to produce, restore, or sustain the integrity and diverse conditions of an ecosystem, and its uses, products, values, and services over the long term. Management of individual components of ecosystems for their immediate needs is expanded to management centered on long-term goals and objectives targeted to the entire ecosystem which may cross jurisdictional lines.

Ecosystems such as grasslands, forests, and aquatic systems contain a variety of species adapted to the components in which they exist and functioning in conjunction with each other. The loss or reduction of species within these ecosystems can have far-reaching effects on all other species present. The full significance of the changes created by altering the balance of these ecosystems is often not immediately apparent and the impacts subtle and difficult to predict.

Future studies must be conducted to determine boundaries of ecoregions and ecosystems that involve part or all of the planning area to determine goals and objectives for managing ecoregions and ecosystems. Results of these studies will be used to determine various management actions that may be undertaken on the BLM-administered public lands to help achieve those objectives. Examples of possible ecosystems in the planning area are the Black Hills, the Little Missouri Breaks, and the shortgrass prairie.

Biological diversity, or biodiversity, is a recurring theme throughout resource management programs presented in this final EIS. The U. S. Congress, Office of Technology Assessment (1987) has defined biodiversity as "the variety and variability among living organisms and the ecological complexes in which they occur. Diversity can be defined as the number of different items and their relative frequency. Thus the term encompasses different ecosystems, species, genes and their relative abundance."

The BLM Science Advisory Group has adopted a definition of biodiversity for use by the BLM which states that "biodiversity is the aggregate of species assemblages (communities), individual species and genetic variation within species, and the processes by which these components interact within and among themselves; for purposes of classification, biodiversity can be divided into three levels: (1) community diversity (habitat, ecosystem), (2) species diversity, and (3) genetic diversity within species; all three levels change through time" (Cooperrider 1990).

The value of maintaining biodiversity of plant and animal species has long been recognized as a necessary and desirable goal for resource management. In all alternatives presented, an effort was made to provide for consideration of biodiversity and for reasonable resource development opportunities, while still providing adequate resource and environmental protection.

Past management actions have, in some localized areas such as riparian areas, reduced the number of specific types of species present from the original or potential condition that may exist. While an increase in individual species may be beneficial to one group or industry, the overall reduction in species and communities is a negative effect on the ecosystem as a whole, which could lead to undesirable situations that can be costly and difficult to remedy.

Conserving biological diversity includes more than recovery of endangered species or creation of preserves. It encompasses maintaining the ecological processes and preserving the capability of genes, organisms, and communities to evolve over time.

The continuation of availability of natural resource products such as livestock forage, wildlife habitat, wood products, recreation areas, and water production and quality control will depend largely on the management of an area to preserve its biological diversity.

Biodiversity will be a management goal of all programs the BLM administers in the Newcastle planning area. This will be most evident in the management actions of the range, riparian, forestry, and wildlife habitat management, predator control, weed control, and rodent control programs and in the impacts of all commodity producing programs.

CLIMATE

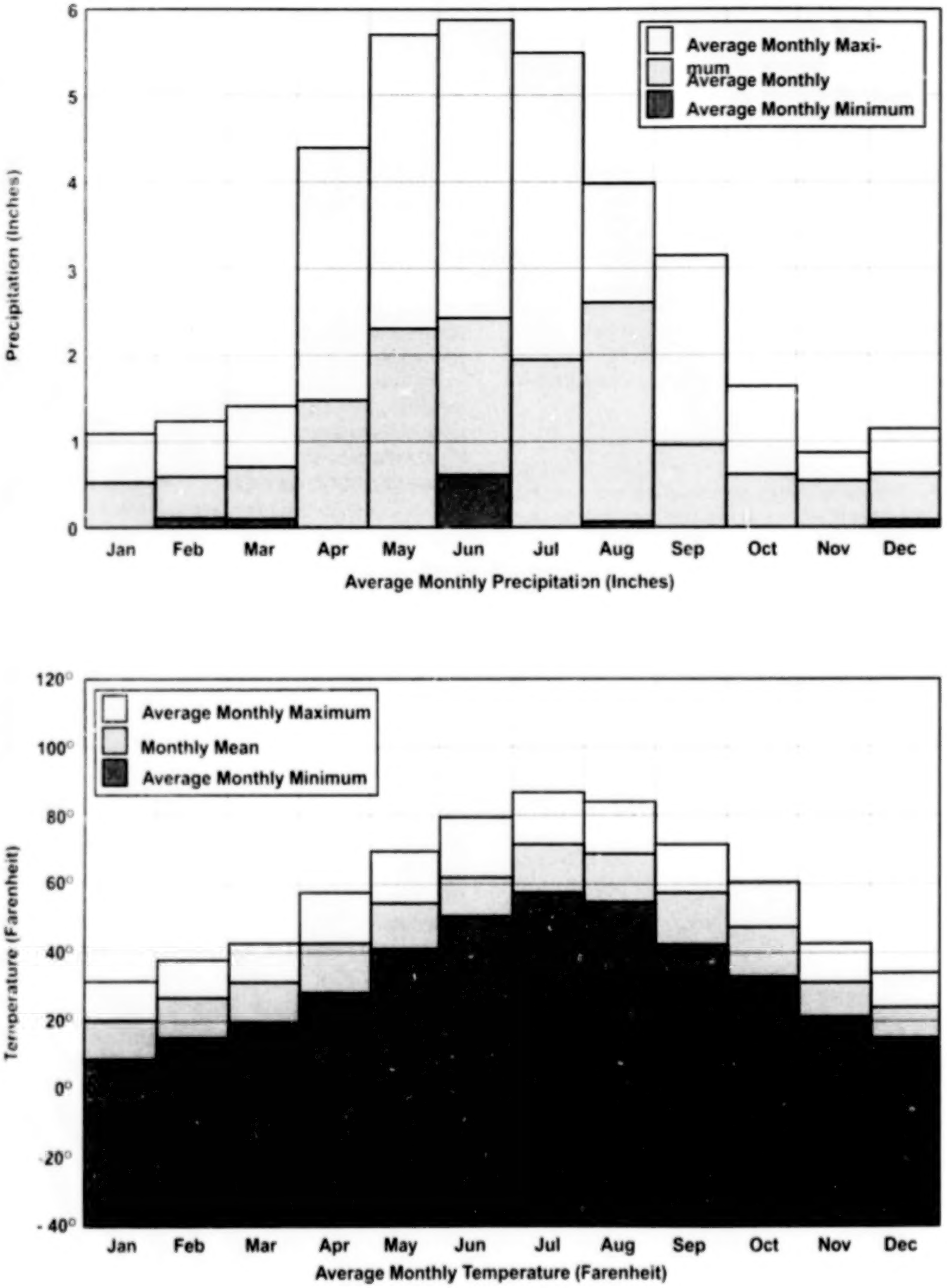
The climate of the planning area is generally dry continental temperate. Most days in the area are dry and sunny with weather fronts coming from the Pacific Ocean. The area does vary in its climatic setting as influenced by elevation. Higher elevations experience lower average temperatures and higher average precipitation. Thus, the lowest area in the Belle Fourche valley supports steppe/grassland ecosystems. Most of the area is semiarid steppe, while the mountains in the northeast are more lush montane and alpine ecosystems.

Precipitation and temperature are the two most important climatic parameters relating to vegetation growth in the planning area. The locations of stations where climate measurements are made in the resource area can be found in the management situation analysis (MSA) which is on file at the Newcastle Field Office. The average annual precipitation for the area is from 22.78 inches in the Black Hills at Alva to 10.59 inches at Keeline. About 19% of the precipitation generally occurs from November through March as snow and about 57% from April through July as rain. Temperatures can be extreme in both winter and summer. The lowest recorded temperature was -30_F and the highest was 105_F, though the average annual temperature is a rather cool 46_F. Figure 3-2 shows the annual distribution of precipitation and temperature at the Newcastle station.

Other climatic factors which affect the ecological setting of the area are humidity, evaporation, and growing season length. Relative humidity over this area can be very low and averages about 65% throughout the year. Pan evaporation is an indication of the amount of moisture that can be lost by water bodies, soil, and vegetation due to atmospheric conditions. The estimated annual pan evaporation for this area is 60 to 65 inches of water. The growing season in this area is short making grain production limited and most other agricultural activities inappropriate, though the grasslands have

Figure 3-2

Annual Precipitation and Temperature



Annual Temperature

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helped to foster the grazing industry. The frost-free period is a maximum of about 137 days (the longest in the state) and decreases with the increasing elevation to as low as 100 days. Winter in this part of the state is not as long and harsh as elsewhere, although severe snowstorms occur between once and twice a year, particularly in the higher elevations. Days with summer thunderstorms are more common along the eastern edge of the state, including the planning area, averaging over 50 days per year.

Wind observations are not taken in the area. The nearest such stations in similar parts of the state are at Casper and Cheyenne. It is expected that like most of the state, winds are predominantly from the west to southwest, depending on the influence of local terrain, and can be quite strong. More information on wind speeds and directions can be found in the MSA on file at the Newcastle Field Office.

CULTURAL RESOURCES

Description and Summary

Cultural resources in the area span at least 12,000 years of prehistory, a short protohistoric period of about 200 years, and an even briefer historic period. Remains from all periods are found throughout the Newcastle planning area.

Through December 1989, approximately 500 historic sites have been recorded in the planning area. Because a Class I overview of historic period resources has never been conducted in the Newcastle area, we do not know how many sites of various kinds are recorded and how many are significant.

A total of 1,656 prehistoric sites were on record for the planning area at the end of 1989. A Class I overview synthesizing these data is available in the Newcastle Field Office. The kinds of prehistoric sites known to occur in the planning area include occupations and campsites, tipi rings, quarries, lithic workshops, rock art, kill and processing sites, rockshelters, hunting camps, overlooks, vegetable processing camps, and burials.

Of the 1,656 prehistoric sites in the area, 866 (52%) lack evaluations, 230 (14%) are designated as eligible for the NRHP, and 560 (34%) are considered not eligible. The evaluations for many of these sites are based on inadequate data and may not be reliable.

No prehistoric or historic sites on BLM-administered surface in the planning area are listed on the NRHP. Two sites have been nominated to the National Register, but the nominations were returned by the Keeper of the Register because inventory data were inadequate.

During a seven-year period (fiscal years 1983 through 1989) for which data are available, a total of 32,541 acres were surveyed for BLM-administered projects. This area represents 1.5% of the combined BLM-administered surface and federal mineral estate in the planning area.

No extensive inventories have been conducted in the Newcastle planning area to identify Native American religious and cultural sites nor to identify possible conflicts.

Prehistoric and Protohistoric Periods

By about 12,000 B.P. (before present) the Paleo-Indian period was well established and lasted until about 7,700 B.P. Paleo-Indians hunted mammoths at the end of the last Ice Age and probably used other animal and plant foods as well. The earliest Paleo-Indians made distinctive Clovis fluted points. Clovis remains have been found at the Sheaman site in Niobrara County. The nearby Agate Basin site provides a picture of successive Paleo-Indian activities beginning with people who used Folsom points to hunt a large extinct form of bison.

Despite the fact that people had been living in northeastern Wyoming for several thousand years, only eight archeological sites have been recorded in the planning area from this time span. Excavations at the Betty Greene site in Niobrara County show a different way of life than many of the earlier kill sites. Large numbers of grinding stones suggest plant food processing. The Betty Greene site may represent a different aspect of the Paleo-Indian lifeway, or possibly the lifeway was beginning to change.

The Plains Archaic period lasted from about 7,700 B.P. to 2,000 B.P. The Early Archaic period is poorly known. Seven Early Archaic sites have been recorded in the planning area; only one, the Hawken site, has been extensively investigated. At the Hawken site, prehistoric hunters trapped bison in an arroyo similar to many Paleo-Indian kill sites.

Middle Archaic sites are much more abundant in the planning area. A total of 31 sites have been recorded. Excavations at the McKean site and several other sites near Keyhole Reservoir provide a more detailed picture of how people lived. Most of these sites are living areas rather than kill sites. These sites provide evidence of cooking and food processing in the form of hearths and grinding stones. Middle Archaic sites show a wide range of plant and animal foods rather than a concentration on bison hunting.

During the Late Archaic, nearby sites show an increased reliance on bison hunting, including the con-

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struction of corrals for driving and trapping animals. There have been 69 Late Archaic sites recorded in the area. Two have been excavated: 48WE320 and a small site near Keyhole Reservoir. Two bison kill sites in the resource area, the Fulton site in Weston County and the Lance Creek site in Niobrara County, have been radiocarbon dated to the Late Archaic. They have never been extensively investigated.

The Late Prehistoric period, lasting from 2,000 B.P. to approximately 250 B.P., has the most recorded sites in the area—81. Extensive excavations at the Vore site in Crook County show a series of 25 communal bison drives into a sinkhole trap. Evidence from the trap indicates that bison drives correlated with climatic fluctuations and peaks in numbers of bison. Several sites excavated near Keyhole Reservoir provide information on campsites. Major technological innovations associated with the Late Prehistoric are the bow and arrow and pottery. These changes affected hunting methods and food processing and storage.

Other prehistoric sites in the planning area are as yet undated and may have been used for many years. Quarries used to extract stone for tools were probably used throughout the prehistoric period. The Spanish Diggings quarries in the Hartville Uplift are one of the most extensive quarry locations in North America. The quarry area alone covers 360 square miles in the planning area and a much larger area to the south. Extensive workshops and campsites surround the quarries. The Manville and Old Woman Creek Hills quarries in Niobrara County are additional areas where similar stone was extracted. No quarry sites in the planning area have ever been excavated.

Significant rock art sites span much of the Paleo-Indian, Archaic, and Late Prehistoric. Fourteen rock art sites have been minimally recorded in the planning area. In addition, Medicine Creek Cave in Crook County has been more fully investigated, and fieldwork is ongoing at Whoopup Canyon in Weston County.

The Whoopup Canyon petroglyph area was designated an ACEC in 1981. The site is an extensive complex of rock art panels and associated archeological deposits. It is one of the oldest rock art sites in North America. National Register nomination forms were prepared and submitted in 1976 but returned for necessary boundary information. Surveys to determine the site boundaries and gather data for a management plan began in 1990 and will take several years to complete. The site is endangered by continuing natural erosion and damage by visitors. An unusually high percentage of the panels, 98% of those on public surface, have been damaged by visitors. There is no legal access to the public lands within the site complex.

Only nine sites have been recorded from the Protohistoric period. This low number of sites is not consistent with known protohistoric activity in the area. Some Protohistoric sites may be identified as Late Prehistoric because no trade goods happen to be found on the site surface and a similar lifeway continued for a while into the Protohistoric period. One site classified as Late Prehistoric was used last during the Protohistoric. The Vore site is recorded on a Cheyenne pictographic calendar. The Bush-Bunger antelope trap is another significant protohistoric site. The V-shaped wings of the trap, which were made of juniper, are still partially intact. Several other sites have sacred and cultural significance to contemporary Native Americans. While the entire Black Hills are important to Native Americans, a number of prominences are special. Devils Tower, Sundance Mountain, Little Sundance (Green) Mountain, Inyan Kara, the vicinity of the Rawhide Buttes, and Whoopup Canyon are known sacred places in the planning area.

Native American Values

While concerns may be voiced by the general public during the public scoping period, the unique legal status of American Indians, the sovereignty of tribal governments, and the nature of reserved tribal rights merits separate attention. The Newcastle planning area may contain sites and locales which some of today's Indian tribes could find significant because of an association with tribal history or because of a site's traditional religious or cultural importance to the tribe. Such sites are generally deeply rooted in the tribe's history and are important in maintaining the continuing cultural identity of the tribe.

These sites and locales may be merely natural features such as specific springs or unusual geologic formations which are sacred to a tribe. They may also be observable man-made features such as rock cairns, stone circles, medicine wheels, or other rock alignments generally found on high places, or pictographs or petroglyphs. All of these types of sites and locales may have been used historically by a tribe for religious purposes or may still be used by a tribe's traditional practitioners. There may also be trails or specific locales where historic events have occurred which are important to a tribe's history. Finally, tribal members and traditional practioners may traditionally use a particular locale for gathering and collecting materials, such as medicinal plants or minerals, used for important cultural or religious activities. Therefore, traditional gathering areas may also be of concern to an Indian tribe.

Physical affects on a cultural or historical resource should not be the only consideration. Because sites and locales significant to a tribe may be used for religious

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purposes, which usually require prayer and meditation, affects from auditory and visual impacts must also be considered.

Procedures for identifying sites and locales of concern to Native Americans requires consultation with the appropriate tribal government or with traditional practitioners of the tribe. While some places may come to light by conducting archaeological or historical surveys, the existence and significance of locations of concern often can be ascertained only through interviews with knowledgeable Native American users of the area, or through other forms of ethnographic research. Executive Order No. 13007, "Indian Sacred Sites," requires that in managing federal lands, each executive branch agency with statutory or administrative responsibility for management of federal lands shall, to the extent practicable, permitted by law, and not clearly inconsistent with essential agency functions (1) accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners and (2) avoid adversely affecting the physical integrity of such sacred sites.

In complying with Executive Order No. 13007 and identifying all other Native American concerns, the BLM will follow procedures and guidance established in BLM Manual Handbook H-8160-1, "General Procedural Guidance for Native American Consultation."

Historic Period

Exploration and Fur Trade

Little is known about the earliest explorers and fur trappers in northeastern Wyoming. The area was on the fringes of fur trade activity. In 1811, Wilson Price Hunt led a party of Astorians along the Little Missouri and Belle Fourche rivers en route to Oregon (map 3-1). A series of scientific and military expeditions began in 1853 with Dr. Ferdnand Hayden's geological exploration. In 1857 Hayden returned accompanying Lieutenant G. D. K. Warren on an expedition to explore and map the Black Hills. Warren's expedition traveled from Fort Laramie to Beaver Creek, then continued to Inyan Kara and east across the Black Hills. A second expedition that gathered scientific data on the area was Captain W. F. Reynolds' expedition in 1859. Traveling from the east, the party traversed the northern Black Hills, then traveled north up the Little Missouri River. The next major exploration was the Custer expedition in 1874, which resulted in discovering gold and disrupting the temporary balance of Indians versus white settlers that was established by the treaty of 1868. To verify the gold discoveries and ascertain their extent, geologist W. P. Jenney traveled north from Cheyenne in 1875 to a trading post on Beaver Creek, which was renamed Jenney Stockade. Jenney continued up Beaver Creek and followed Custer's trail east into the Black Hills.

These early explorations left few traces in the archeological record.

Trails and Transportation

As soon as the Black Hills were opened for mining in 1876, the Cheyenne to Black Hills Stage Line was initiated (map 3-1). During the first year, the stages traveled north of Lusk to Hat Creek Station, then veered northeast to the southern Black Hills. This line was soon abandoned and a route up the west side of the Black Hills was established. Called the Black Hills Wagon Road or the Cheyenne to Deadwood Stage Road, this route was used from 1877 to 1887. In northeastern Weston County two branches were used. One extended directly northeast across the mountains; the other skirted the edge of the Black Hills to Sundance and continued east along the Red Valley. The stage route was used long enough to leave traces in areas where subsequent roads have not obliterated them. Although only the Hat Creek stage station still has a standing structure, archeological remains can be expected at all of the stations. The Jenny Stockade building is also intact, but it was moved to Newcastle.

From 1868 to 1897 cattlemen used the Texas Trail to move cattle from Texas to Montana. The trail extended south to north across the planning area. Because the cattle spread out and used various routes, it is difficult to find well-defined traces of the main route or secondary trails.

The first railroad that entered northeastern Wyoming was a line of the Burlington and Missouri River Railroad. The line was extended to Newcastle from Grand Island, Nebraska, in 1889, only after sufficient coal was discovered at Cambria to run the steam engines. By 1891, the rail line reached Moorcroft and continued west across the Powder River Basin. Rail service to Aladdin was also associated with coal mining. A narrow gauge spur line connected Aladdin to the Chicago and Northwestern Railway at Belle Fourche, South Dakota.

Mining and Industry

The initial impetus for historic settlement of the planning area was the Black Hills gold rush. Only three early mining districts were in the planning area. The districts were remote from the main transportation routes and therefore were not fully developed. Placer mining began on Sand Creek in 1875, the first year of the gold rush, followed by quartz vein mining on Mineral Hill. Mineral Hill was across the border from the Tinton mining area in South Dakota. The Black Butte District southeast of

Sundance, prospected in 1879, produced some gold and silver, while the Bear Lodge District, centered around Warren Peak, produced copper and gold.

The first oil discoveries in the planning area were oil springs near Newcastle. As early as 1878, oil was skimmed off settling ponds and hauled to the Deadwood-Lead area for lubricating mining equipment. Oil seeps near Moorcroft were discovered around 1884. The demand from mining towns was sufficient that 60 wells had been drilled by 1887. Moorcroft became the first developed oil field in the Powder River Basin and sold oil to the mines for $28.00 a barrel. The Rockyford Field in Crook County began producing oil in 1909. The Thornton and Lance Creek fields were started in 1915 and 1918, and the following year the Mule Creek, Osage, and Wakeman Flats fields were operating. Pedro, Ant Hills, and Dewey Dome were all post-World War I developments. Several of the fields are historically important and may contain features eligible for the National Register of Historic Places.

Coal was discovered at Aladdin between 1875 and 1880 and was mined by early settlers for domestic use. Peak production was between 1898 and 1909 when the coal was used to fuel locomotives. Coal at Cambria near Newcastle had been reported in the late 1870s or early 1880s and was first prospected in 1886 to determine whether it was sufficient to fuel the railroad. The first coal shipment in 1889 enabled the railroad to reach Newcastle that year. The Cambria mines operated from 1889 until 1928 and produced coke for gold smelters in Deadwood in addition to fuel for locomotives and domestic use.

Around the edge of the Black Hills from Newcastle to Aladdin, small wagon mines provided coal for local ranchers and settlers around the turn of the century.

Bentonite was also discovered prior to 1900. In 1897 a pit near Newcastle shipped raw clay. Mining in the extensive Clay Spur District began before 1903. Processing plants were first constructed in the 1920s. Uranium was first discovered in Wyoming in 1918 and was associated with copper and silver ore at the Silver Cliff Mine near Lusk.

Other early industrial activity, such as salt extraction and logging, supported mining and settlements as early as the 1870s.

Ranching and Homesteading

As soon as the treaty of 1876 opened up the area to Anglo-American settlement, commercial buffalo hunters swarmed over the Powder River Basin and killed most of the buffalo by the fall of 1878. Cattlemen then began moving herds into the area. A number of large ranches were established in all three counties in 1878. The large ranches were in open country along major streams, including the Little Missouri River, Belle Fourche River, Cheyenne River, Lance Creek, Old Woman Creek, and Beaver Creek. Smaller ranchers and settlers moved to the streams along the edge of the Black Hills.

Homesteads are the most frequent kinds of historic sites found in the planning area.

FOREST RESOURCES

An inventory of the forested land was completed in 1980. From analysis of this inventory, 8% of planning area (25,300 acres) is classified as forestlands. Within the forestlands, 62% (15,800 acres) is classified as commercial, and the remaining 38% (8,693 acres) is classified as nonproductive. On the commercial forestlands, the seedlings/saplings class accounts for 2% (374 acres), the pole class accounts for 29% (4,686 acres), while the remaining 69% (10,747 acres) is sawtimber. Commercial forestlands are defined as being capable of producing at least 20 cubic feet of growth per acre per year of a tree species suitable for commercial wood products. Noncommercial forestland is land that has less than 20 cubic feet of growth per acre per year or is capable of growing only noncommercial tree species. Appendix G provides additional information about the forest resources in the planning area.

Forested public lands are concentrated along the Wyoming/South Dakota state line in Weston and Crook counties. Small, isolated, scattered tracts of public forestlands intermixed with private land are along the west and northwestern portion of the Black Hills in Crook County. In the Hat Creek Breaks and the German Hills areas in Niobrara County there are also small tracts of forested public lands.

Ponderosa pine (Pinus ponderosa) is the predominate commercial sawtimber species found in the resource area. Noncommercial species which may be found in association with the ponderosa pine are Rocky Mountain juniper, paper birch, bur oak, plains cottonwood, and quaking aspen.

The 25,300 acres of forestland are classified to one of four forest management categories:

> Lands available for intensive management of forest products are areas where forest management is the primary use and where other resource uses or values occur but are not emphasized (0 acres).
>
> Lands available for restricted management of forest products are areas where multiple use or other resource values are emphasized, but timber harvest occurs (15,800 acres).

> Lands where the forest management is for the enhancement of other uses are areas where forest management activities are specifically for the benefit of other identified resource uses or values (9,083 acres).
>
> Forestlands not available for management of forest products are areas where no forest management is planned (417 acres).

During the past decade, about 1,600 acres (10%) of the commercial forest acres have been harvested using a two- or three-cut shelterwood harvest, commercial, and precommercial thinning. This is the accepted silvicultural practice in harvesting ponderosa pine. The harvest of trees is done with rubber-tired skidders or whole tree mechanical harvesters.

In the mid-1980s when funding became available, timber stand improvement and precommercial thinning began to treat the backlog of overstocked stands which were identified as needing treatment. At this time, some 1,200 acres have had some type of treatment. A maintenance level of about 60 acres is being treated annually. This level varies year to year with available funding.

The major wood product users in the planning area are sawmills located in Newcastle, Hulett, and Spearfish, South Dakota. These mills receive most of their supply of timber from the Black Hills National Forest with the remaining supply coming from private, state, and BLM-administered public lands.

Minor forest products (fuelwood, post and poles, and Christmas trees) are sold on a public demand basis. The demand for these forest products in the past has been small to nonexistent and has been met by the Forest Service (FS) or private landowners.

GEOLOGY AND MINERAL RESOURCES

Geology

The planning area lies within the Great Plains geomorphic province and encompasses portions of three geological provinces: the Black Hills uplift, the Powder River Basin, and the Hartville uplift (map 3-2).

The Black Hills are a broad northward-trending anticlinal uplift about 200 miles long flanked by the Powder River Basin to the west and southwest and the Williston Basin to the northeast (map 3-2; Robinson, Mapel, and Bergendahl 1964). The overall structure of this domal uplift is that of a broad anticline/nose whose axis plunges at a low angle northward. The dip on the east side of this nose is gentle and northeastward; on the west side it is gentle and northwestward (Knechtel and Patterson 1962).

The Black Hills were formed by the erosion of this dome-shaped uplift during Laramide time and consist of a Precambrian core flanked by younger Paleozoic and Mesozoic sedimentary rocks. The successive geologic formations generally crop out in parallel arcuate belts that are convex toward the north and extend eastward across the district. The oldest rocks are exposed in the south-central part; the youngest are along the northeast and northwest margins. This general pattern is interrupted locally by anticlinal and synclinal flexures, the axis of which tends to parallel the arcuate belts, and by many small normal faults.

The Black Hills uplift is separated from the Powder River Basin by the Black Hills monocline, a steep westward-dipping flexure which trends northwest across Weston and Crook counties, becoming a fault at its deepest point (map 3-2). It serves essentially as a boundary between gently dipping rocks of the Black Hills uplift and adjoining gently dipping rocks of the Powder River Basin. Sedimentary rocks of primarily Cretaceous age on the eastern or uplifted side of the Black Hills monocline are deformed by northward or northwestward-trending anticlines and synclines and by nearly circular domes (Robinson, Mapel, and Bergendahl 1964). These anticlinal structures are found throughout Crook County. Those present along the western and northern boundaries have produced economic quantities of oil and gas (USDI, BLM 1981c).

The Powder River Basin to the west of the Black Hills monocline is a deep, asymmetric, mildly deformed, synclinal basin. It encompasses most of the northeastern corner of Wyoming and a small portion of southeastern Montana (map 3-2). Steeply dipping to overturned strata form hogbacks flanking the western margin of the basin, while on the eastern margin the strata are relatively undisturbed and dip gently westward off the Black Hills uplift (Strickland 1958). More than 13,000 feet of Phanerozoic sediments overlie the Precambrian basement in the Powder River Basin (Ayers 1986).

The general configuration of the Powder River Basin developed in Early Permian time with local structures forming soon afterward. However, the present structure of the basin is the result of the late Cretaceous to early Tertiary Laramide Orogeny. Laramide deformation produced strong regional asymmetry, with the major part of the basin dipping southwest at about two degrees (Berg and Tenney 1967). The basin is bounded by zones of stronger deformation along the margins of the Black Hills and Hartville uplifts and the Big Horn Mountains. In these structural belts, gentle to sharp anticlinal closures were formed, probably along lines of structural weakness that were present at a much earlier date (Berg and Tenney 1967).

The Hartville Hills area is a broad northeast-trending uplift 15 to 23 miles wide and 35 to 40 miles long extending from Guernsey on the southwest to Manville and Lusk on the north and northwest (map 3-2; Condra, Reed, and Scherer 1950). It was formed by the erosion of uplifted Precambrian and Paleozoic age rocks, forming deep canyons and valleys containing late Tertiary deposits, remnants of an older upland surface. The upturned edges of the sedimentary strata surrounding the Hartville Hills form asymmetrical foothill ridges with inward-facing slopes.

Rawhide Butte, the northern extension of the Hartville Hills in southwestern Niobrara County, rises abruptly more than 1,000 feet above the surrounding plains to an altitude of about 6,100 feet. North of Rawhide Butte, rocks of the Hartville Hills extend as a low but well-defined ridge as far as the Niobrara River. North of the river, a few isolated outcrops of similar strata indicate that the hills once had a greater northward extension (Whitcomb 1965).

Leasable Minerals

Coal

Coal leasing and development activities are not currently being conducted in the planning area. However, coal mining was an important part of Weston County's economy between 1889 and 1928. Bituminous coal of coking quality was mined at Cambria, 5 miles north of Newcastle, on a spur of the Burlington Railroad (map 3-1). The coal bed, located within the Lower Cretaceous Lakota Formation, averaged about five feet thick. The coal was mined out of five separate mines with total production amounting to 12,464,047 short tons (Rich, Pish, and Knell 1988). Much of the coal was used directly by the railroad, and coke was supplied to smelters in the northern Black Hills and elsewhere between 1891 and 1903. Small quantities of the same bituminous coal were mined at Aladdin in Crook County between 1898 and 1909 for domestic use and for the Chicago and Northwestern Railway. There has been no recorded production in any of these areas since 1935.

Sporadic prospecting for additional minable deposits occurred in the early 1900s, but no new workable deposits were discovered (map 3-1). Coal deposits in the planning area appear to be restricted to relatively thin (one to seven feet) beds of the Lakota and Fall River formations and are not considered to be economic for mining purposes (map 3-3). Coal production has shifted to the center of the Powder River Basin in Campbell County where production is from beds of high-quality, low sulfur sub-bituminous coal in Tertiary strata (Wasatch and Fort Union formations).

It is not anticipated that coal leasing activities will occur in the planning area as long as abundant supplies of high quality sub-bituminous coal are available in nearby Campbell County.

Oil and Gas

The following is a summary of oil and gas activity in the Newcastle area. The reader is encouraged to turn to appendix H for a much more complete description of oil and gas activity and processes. Appendix I presents the reasonably foreseeable development scenario for oil and gas activity.

The planning area covers the eastern Powder River Basin, which is the most prolific oil-producing basin in the Rocky Mountains. The earliest reported discovery in the area is the Moorcroft Field near Moorcroft, Wyoming in Crook County. Eleven geologic formations are productive in the area, and well depths range from very shallow (less than 100 feet) in the Newcastle and Osage areas to almost 11,000 feet in western Niobrara County.

The United States owns 2.12 million acres of oil and gas land in the area. This acreage is 43% of the total planning area and is interspersed with nonfederal oil and gas ownership. In the area, there are 0.29 million acres of BLM-administered public lands. Other federal agencies administer 0.42 million surface acres in the area (figure 3-3).

In November 1990, 3,578 oil and gas leases covering 1.52 million acres were in effect in the planning area. Of the leases in effect, 702 were productive (0.21 million acres) and 2,876 were not productive (1.31 million acres).

Federal oil and gas lease sales are held every two months. The amount of acreage sold in the Newcastle planning area from February 1989 through August 1991 (16 sales) is shown in figure 3-4. The total bonus from these sales is shown in figure 3-5. About half of the bonus money received from these sales is returned to the State of Wyoming.

Seismic exploration is a process where energy is transmitted into the subsurface (usually by explosives or low frequency vibrations) and the reflected energy waves are recorded and electronically processed. The processed seismic profile shows the rock layers of the earth and is useful in locating oil and gas reservoirs. There were about 13 miles of seismic exploration on BLM-administered public lands in 1989 and 9.1 miles in 1990.

Before drilling operations can begin, an application for permit to drill (APD) must be approved by the authorized officer. An average of 65 APDs per year were approved by the authorized officer from 1987 through

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Figure 3-3

Surface and Mineral Ownership

(4.57 million acres)

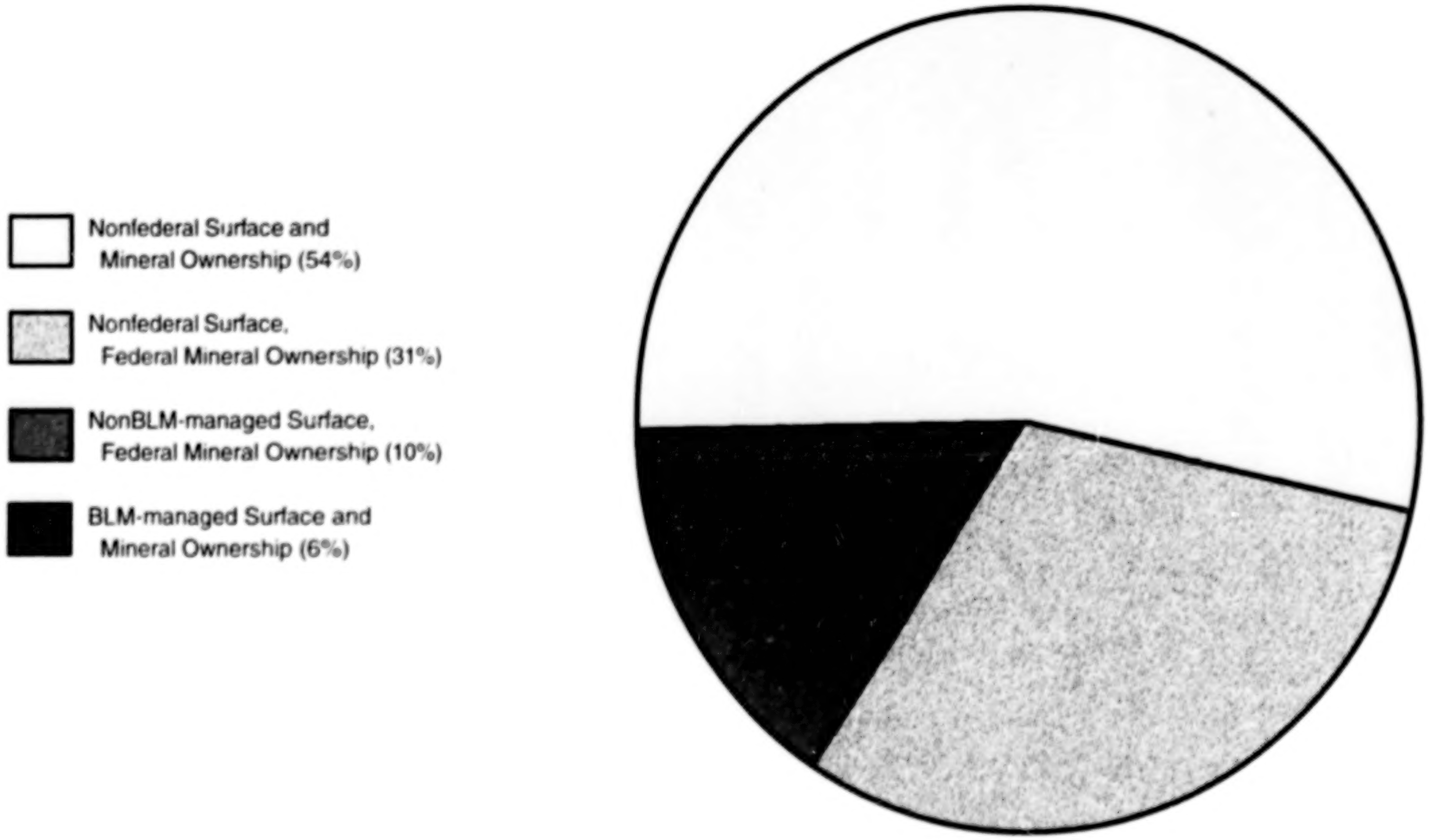


Figure 3-4

Oil and Gas Lease Sale Results

Acres Offered and Leased

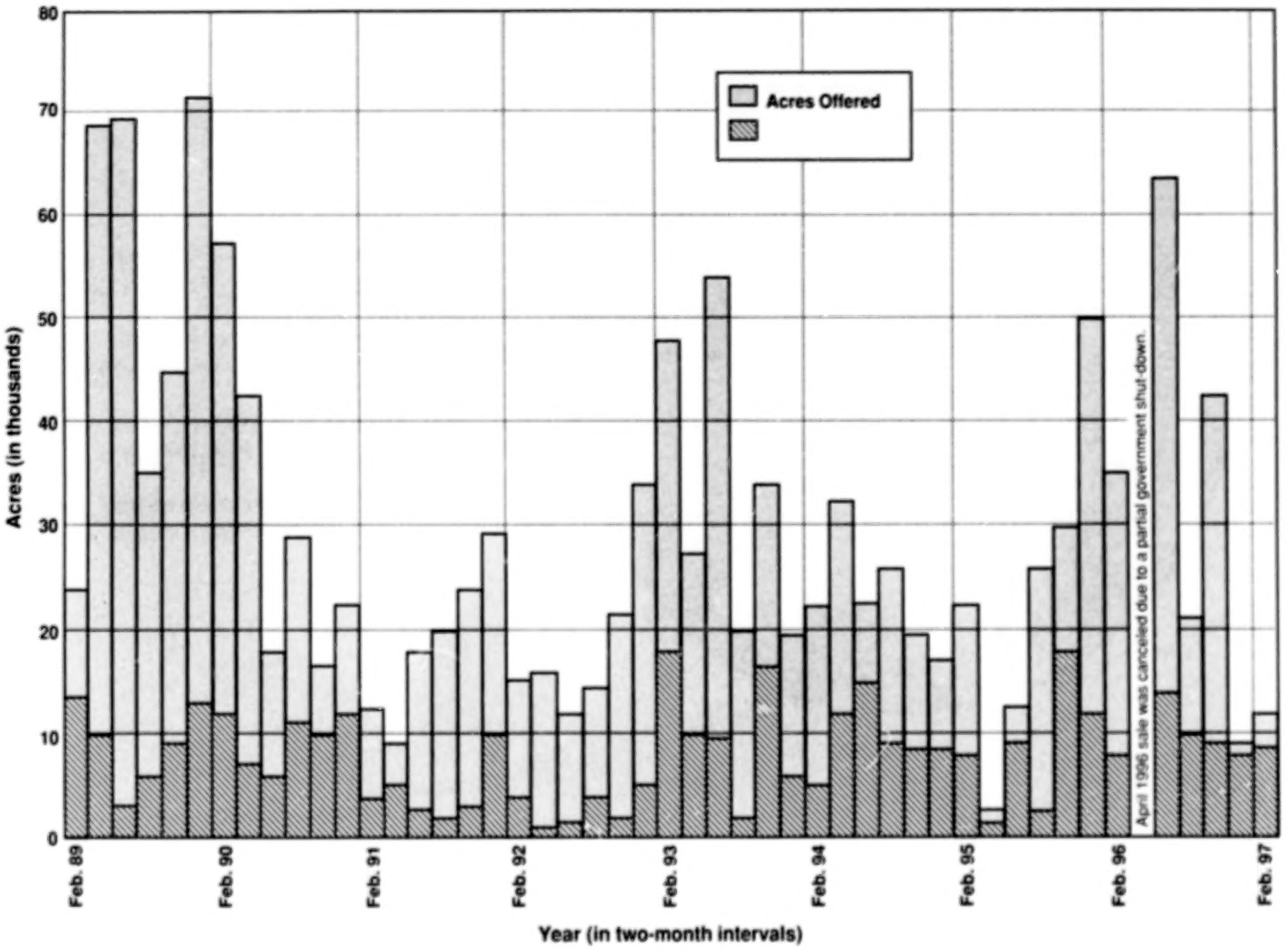
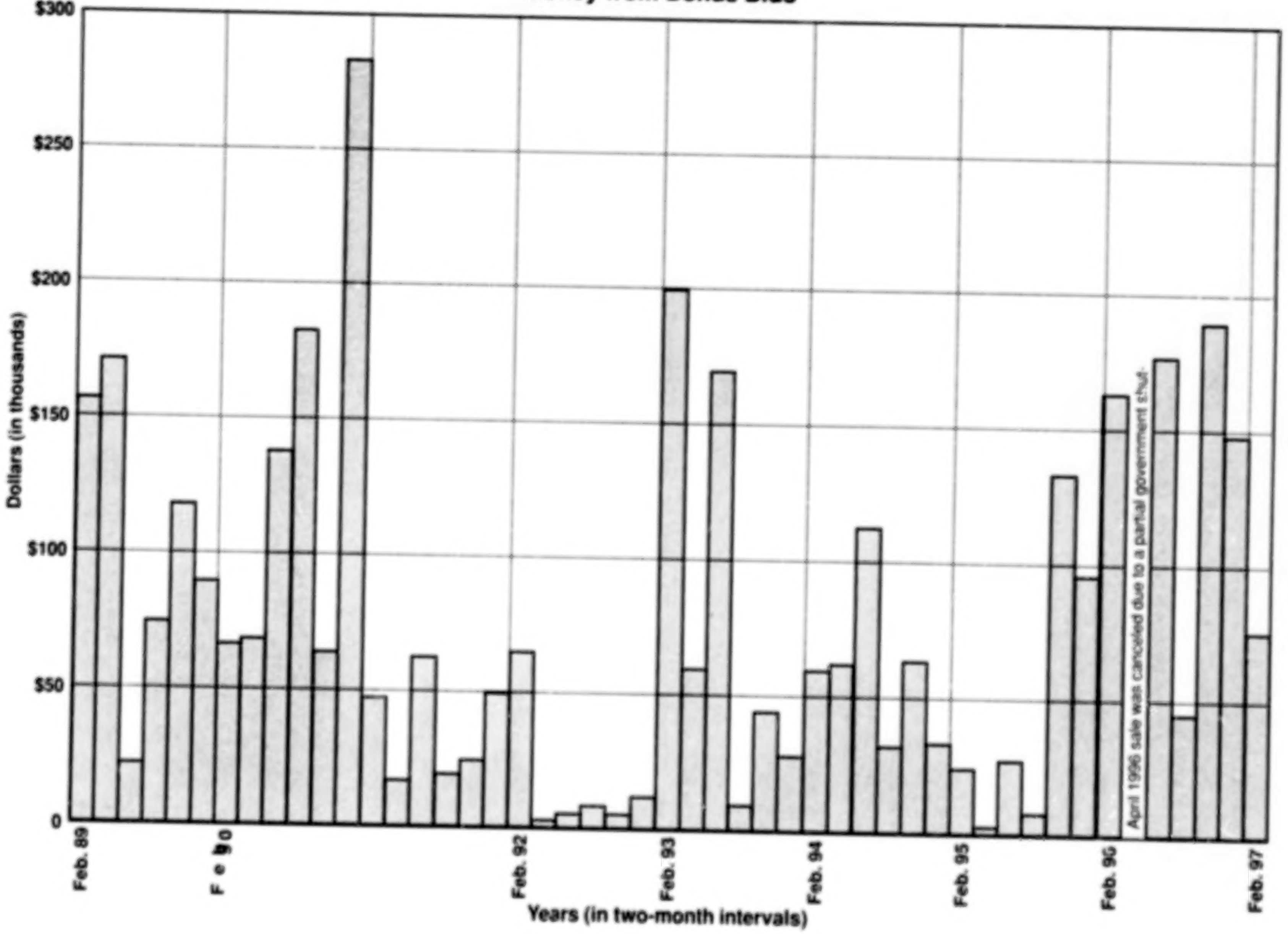


Figure 3-5

Oil and Gas Lease Sale Results

Money from Bonus Bids



1992. During calendar years 1987 through 1992 an average of 47 federal wells per year were drilled in the area, and 67 federal wells per year were abandoned.

Oil production from the area averaged about 7.7 million barrels per year from 1987 through 1991. This represents about 7.1% of the state's oil production. Gas production is a relatively minor 2.9% of the state's total.

In 1989 about 57% (4.89 million barrels of oil) of the oil production and 60% (2.03 billion cubic feet of gas) of the gas production in the area were from federal leases, communitized areas, or units. The amount of federal oil production has increased both absolutely and relatively in the past few years.

During calendar years 1987 through 1992 there was an average of 1,026 (43% of all productive wells) productive federal oil and gas wells in the area. There were also 184 service injection wells and 149 shut-in wells, for a total of 1,359 nonplugged federal wells.

Production operations and facilities that involve federal minerals must meet federal requirements and are subject to BLM inspection and enforcement (I&E) regulations. High priority items are inspected at least once per year.

Federal oil and gas unit and communitization agreements (CAs) are administered and approved by the BLM's Reservoir Management Group. Changes in unit or CA operator are not approved unless the Newcastle Field Office manager has determined that bond coverage is adequate.

Locatable Minerals

Locatable minerals are "those valuable mineral deposits" which are not included under the mineral leasing acts and do not include common varieties of sand, stone, gravel, cinders, pumice, and clay (Maley 1985). Mining claims, either placer or lode, are staked for locatable minerals.

At the field office level, surface-disturbing activities under jurisdiction of the 43 CFR 3809 regulations are reviewed on a case-by-case basis. All surface-disturbing activities on mining claims require a notice submitted to BLM for a cumulative disturbance of five acres or less and a plan of operations for disturbances of more than five acres. No notification is required for casual use (nonmechanized; for example, pick and shovel). All operations, casual use, notice of intent, or plan of operations must comply with all federal and state laws pertaining to air quality, water quality, solid wastes, fisheries, wildlife and plant habitat, cultural and paleontological resources, and protection of survey monuments (43 CFR 3809.2).

Mining activities are regulated under 43 CFR 3809 to prevent undue degradation of surface resources and to ensure reasonable reclamation of disturbed sites on federal lands. The BLM conducts regular (twice yearly minimum) field monitoring inspections of mining activities on federal surface to ensure compliance and to check for unauthorized use.

All public lands are open to exploration for locatable minerals except those withdrawn to protect other resource values and uses or those lands with acquired minerals status. Acquired minerals are subject to leasing under 43 CFR 3500. The only areas under BLM jurisdiction in Newcastle Field Office area which are currently closed to the operation of the mining laws are BOR lands at Keyhole Reservoir in Crook County.

BLM has limited management authority over mining claim operations conducted under the General Mining Law of 1872. These operations are managed using the surface regulations in 43 CFR 3809. BLM is required to prevent unnecessary and undue degradation of public lands and provide for reasonable reclamation by applying the 43 CFR 3809 regulations and any agreements made with the Wyoming DEQ pursuant to those regulations.

There are approximately 1,800 active placer mining claims in the area, with bentonite, uranium, and gypsum being the principal locatable minerals. Presently, only bentonite is being mined.

Bentonite

In the planning area there are two principle bentonite mining areas, the northern Black Hills, or Colony Mining District, and the Clay Spur Mining District (map 3-4). The northern Black Hills bentonite mining district comprises an irregularly shaped area of about 980 square miles extending about 60 miles along the north side of the Black Hills of Wyoming and South Dakota into Montana. Within this district, many beds of bentonite occur interspersed with sedimentary strata of Cretaceous age (figure 3-6) that have an average thickness of about 3,000 feet and consist chiefly of marine shale, marl, and argillaceous sandstone (Knechtel and Patterson 1962). In the northern Black Hills mining district, the important commercial beds are the Clay Spur bed at the top of the Mowry Shale and the E and F beds in the lower part of the Belle Fourche Shale. These beds average two and one-half to three feet thick.

The Clay Spur District is located in the south-central part of Crook County and the north-central part of Weston County extending from Keyhole Reservoir on the Belle Fourche River south to Osage, Wyoming. The mining area is a narrow sinuous belt approximately 30 miles long encompassing about 100 square miles which

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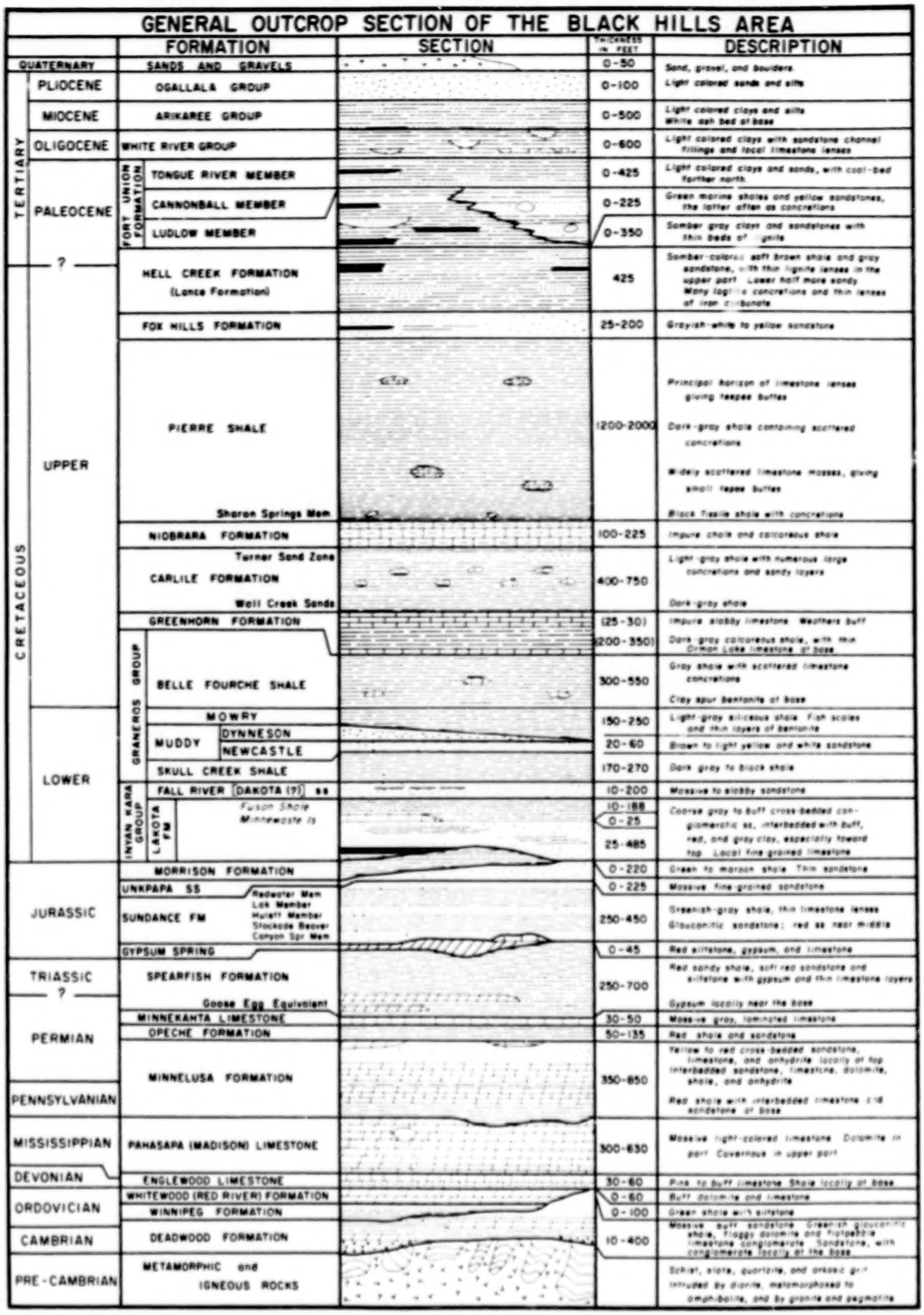

GENERAL OUTCROP SECTION OF THE BLACK HILLS AREA

		FORMATION	THICKNESS IN FEET	DESCRIPTION
QUATERNARY		SANDS AND GRAVELS	0-50	Sand, gravel, and boulders.
TERTIARY	PLIOCENE	OGALLALA GROUP	0-100	Light colored sands and silts
	MIOCENE	ARIKAREE GROUP	0-500	Light colored clays and silts White ash bed at base
	OLIGOCENE	WHITE RIVER GROUP	0-600	Light colored clays with sandstone channel fillings and local limestone lenses
	PALEOCENE	FORT UNION FORMATION: TONGUE RIVER MEMBER	0-425	Light colored clays and sands, with coal-bed farther north.
		FORT UNION FORMATION: CANNONBALL MEMBER	0-225	Green marine shales and yellow sandstones, the latter often as concretions
		FORT UNION FORMATION: LUDLOW MEMBER	0-350	Somber gray clays and sandstones with thin beds of lignite
	?	HELL CREEK FORMATION (Lance Formation)	425	Somber-colored soft brown shale and gray sandstone, with thin lignite lenses in the upper part. Lower half more sandy. Many lignitic concretions and thin lenses of iron carbonate
CRETACEOUS	UPPER	FOX HILLS FORMATION	25-200	Grayish-white to yellow sandstone
		PIERRE SHALE	1200-2000	Principal horizon of limestone lenses giving teepee buttes Dark-gray shale containing scattered concretions Widely scattered limestone masses, giving small tepee buttes
		Sharon Springs Mem		Black fissile shale with concretions
		NIOBRARA FORMATION	100-225	Impure chalk and calcareous shale
		CARLILE FORMATION Turner Sand Zone Wall Creek Sands	400-750	Light-gray shale with numerous large concretions and sandy layers Dark-gray shale
		GREENHORN FORMATION	(25-30)	Impure slabby limestone. Weathers buff
		GRANEROS GROUP	(200-350)	Dark-gray calcareous shale, with thin Orman Lake limestone at base
		GRANEROS GROUP: BELLE FOURCHE SHALE	300-550	Gray shale with scattered limestone concretions Clay spur bentonite at base
	LOWER	GRANEROS GROUP: MOWRY	150-250	Light-gray siliceous shale. Fish scales and thin layers of bentonite
		GRANEROS GROUP: MUDDY: DYNNESON NEWCASTLE	20-60	Brown to light yellow and white sandstone
		GRANEROS GROUP: SKULL CREEK SHALE	170-270	Dark gray to black shale
		INYAN KARA GROUP: FALL RIVER [DAKOTA (?)] ss	10-200	Massive to slabby sandstone
		INYAN KARA GROUP: LAKOTA FM Fuson Shale Minnewaste ls	10-188 0-25 25-485	Coarse gray to buff cross-bedded conglomeratic ss, interbedded with buff, red, and gray clay, especially toward top. Local fine-grained limestone
JURASSIC		MORRISON FORMATION	0-220	Green to maroon shale. Thin sandstone
		UNKPAPA SS	0-225	Massive fine-grained sandstone
		SUNDANCE FM Redwater Mem Lak Member Hulett Member Stockade Beaver Canyon Spr Mem	250-450	Greenish-gray shale, thin limestone lenses Glauconitic sandstone; red ss near middle
		GYPSUM SPRING	0-45	Red siltstone, gypsum, and limestone
TRIASSIC		SPEARFISH FORMATION Goose Egg Equivalent	250-700	Red sandy shale, soft red sandstone and siltstone with gypsum and thin limestone layers Gypsum locally near the base
? PERMIAN		MINNEKAHTA LIMESTONE	30-50	Massive gray, laminated limestone
		OPECHE FORMATION	50-135	Red shale and sandstone
PERMIAN PENNSYLVANIAN		MINNELUSA FORMATION	350-850	Yellow to red cross-bedded sandstone, limestone, and anhydrite locally at top Interbedded sandstone, limestone, dolomite, shale, and anhydrite Red shale with interbedded limestone and sandstone at base
MISSISSIPPIAN		PAHASAPA (MADISON) LIMESTONE	300-630	Massive light-colored limestone. Dolomite in part. Cavernous in upper part
DEVONIAN		ENGLEWOOD LIMESTONE	30-60	Pink to buff limestone. Shale locally at base
ORDOVICIAN		WHITEWOOD (RED RIVER) FORMATION	0-60	Buff dolomite and limestone
		WINNIPEG FORMATION	0-100	Green shale with siltstone
CAMBRIAN		DEADWOOD FORMATION	10-400	Massive buff sandstone. Greenish glauconitic shale, flaggy dolomite and flatpebble limestone conglomerate. Sandstone, with conglomerate locally at the base
PRE-CAMBRIAN		METAMORPHIC and IGNEOUS ROCKS		Schist, slate, quartzite, and arkosic grit intruded by diorite, metamorphosed to amphibolite, and by granite and pegmatite

(Wyoming Geological Association Guidebook, 1968)

Figure 3-6
General Stratigraphic Chart

is mostly confined to the outcrop area of the Upper Cretaceous Belle Fourche Shale. It is 5 miles across at its widest point north of Upton, Wyoming. Outcropping Cretaceous formations dip gently southwestward at 2° to 3° throughout the district. At the northern and southern ends of the district, the dip abruptly increases to 20° or more, making mining unfeasible. Nearly all bentonite production in the Clay Spur District comes from the Clay Spur bed of the Mowry Shale. Another bentonite bed in the lower part of the Belle Fourche Shale (bed E) has produced a small quantity of bentonite. A very minor amount of bentonite also has been mined from the Newcastle Formation, but none of the operations were commercially successful (Davis 1965).

Some bentonite mining out of the Belle Fourche and Mowry shales has also occurred in the extreme southeast corner of Weston County and the extreme northeast corner of Niobrara County.

The Black Hills region, which includes both of these districts, accounts for about 45% of total United States sodium bentonite production (Allison 1988).

Exploration for and development of new bentonite reserves is a continuing process in Crook and Weston counties (map 3-4). Exploration activities are scattered throughout Crook County with the exception of the southeastern quarter. In Weston County most exploration activity is primarily in the north-central part of the county, with a little occurring in the southeastern corner near the South Dakota border. Bentonite deposits in the planning area generally occur at depth, but often can crop out in the area.

Active claims for bentonite are spread throughout Crook, Weston, and Niobrara counties. A detailed listing of these claims with respect to location, type, and claimant name is contained on microfiche on the Geographic Index in the Newcastle Field Office and is updated quarterly. The primary bentonite claimants in the area are American Colloid Company and Bentonite Corporation (formerly NL Baroid Company). Active mining of bentonite is occurring mainly on private surface and private minerals in Crook and Weston counties. There is one mining operation (by American Colloid Company) near Upton which is on public land with acquired mineral status administered under a mining lease by BLM, Casper Field Office. American Colloid Company and Bentonite Corporation both have bentonite mills at Upton and Colony.

Since about half of the bentonite produced in Wyoming is sold to the drilling mud industry, the bentonite industry has been in a slump in recent years due to the decrease in oil and gas exploration activity. Pelletizing and foundry sandbonding make up the bulk of the remainder of uses.

It is estimated that there is at least 100 million tons of bentonite reserves in the Black Hills region (Allison 1988). Total bentonite production out of Crook and Weston counties in 1989 was 1,123,151 tons (table 3-3). Under current management conditions, activity in the bentonite segment of the locatable minerals program can be expected to remain about the same in the foreseeable future (five to ten years). Lifting the withdrawal status of lands at the west end of Keyhole Reservoir in Crook County could result in some exploration and mining activity out of some 30-year-old pits which may have some minable quantities of bentonite left. Another boom in the oil and gas industry in the future could be expected to cause a significant increase in activity.

TABLE 3-3
BENTONITE PRODUCTION IN CROOK AND WESTON COUNTIES IN 1989

Operator	Mine Name	County	Facilities Operated	Number of Employees	Production (tons)
American Colloid Company	Colony East Mill	Crook	bentonite mill	27	260,492
American Colloid Company	Colony West Mill	Crook	bentonite mill	26	209,252
American Colloid Company	Colony Mine	Crook	open pit bentonite mine	28	[a]
American Colloid Company	Upton Mill	Weston	bentonite mill	46	310,832
American Colloid Company	Upton Mine	Weston	open pit bentonite mine	13	[a]
Bentonite Corporation	Colony Mill	Crook	bentonite mill	62	342,575
	Colony Mine	Crook	open pit bentonite mine	15	[a]
					1,123,151

[a] Shown at mill.

SOURCE: WOSIM 1990.

Gypsum

Gypsum beds 10 to 30 feet thick occur in the Spearfish Formation and crop out almost continually around the Black Hills. Gypsum in beds 25 to 40 feet thick occur in the Minnelusa Formation in eastern Crook County and have only been used for fabrication into art objects. In the past, short-lived plaster mills have been operated in several Black Hills towns, including Sundance, Wyoming. At present, production is only occurring near Rapid City, South Dakota (Gries 1974).

Uranium

The only other known significant locatable mineral in the planning area is uranium, but there is no active mining of uranium taking place. Past commercial mining has occurred in Crook and Niobrara counties.

Map 3-5 shows mining districts, abandoned or inactive mines, and occurrences or prospect locations for uranium. Commercial deposits of uranium in Wyoming were first discovered in 1918 in Niobrara County at the Silver Cliff Mine, located 1/2 mile west of Lusk. Several small shipments were made from this mine in 1918, 1922, and during the 1950s and 1960s (Elevatorski 1976). During the 1950s, two uranium mines were opened in the Lance Creek area. However, very little uranium was produced from either of these mines, and they are presently inactive (USDI, BLM 1981b).

The primary uranium mining district is the Black Hills mining district. Located in Crook County, it contains five subdistricts: Elkhorn Creek, Hulett Creek (New Haven), Barlow Canyon, Carlile, and Aladdin (map 3-5). Commercial deposits of uranium in Crook County were first discovered in 1952 near Carlile, Wyoming. From 1953 to 1966, 90% of the total production (2.7 million pounds of uranium) came from the Hulett Creek and Carlile districts (Elevatorski 1976). The Hauber Mine, in the Hulett Creek district, was the largest mine in the northern Black Hills. It accounted for 83% of the uranium produced in the area (Chenoweth 1988). From 1953 through 1968, mines on 29 properties in the northern Black Hills produced 719,911 tons of ore averaging 0.22% uranium and containing 3,151,474 pounds of uranium (Chenoweth 1988).

All uranium ore produced in Crook County has come from fluvial sandstones and conglomerates of the Lower Cretaceous Lakota Formation and in marginal marine sandstones and siltstones of the overlying Fall River Formation. All of the major mining districts in Crook County are located near paleochannels, which may have acted as conduits for mineralizing solutions. Where the fine-grained materials have eroded, groundwaters have migrated through fluvial sandstones into a reducing environment conducive to deposition of uranium minerals. Production from Niobrara County has been from stream-deposited, conglomeratic, sandstone lenses of the Tertiary White River Group (USDI, BLM 1981b).

In Weston County minor amounts of uranium have been extracted from two prospect areas about 10 miles southeast of Newcastle from sandstones of the Fall River Sandstone.

Surface outcrops of the Fall River and Lakota sandstones occur throughout the planning area, but little or no active exploration for uranium is occurring. Most, if not all, of the claims located for uranium are inactive at this time.

Exploration in the northern Black Hills during the uranium boom of the late 1970s identified additional ore deposits which could be developed in the future (Chenoweth 1988). Although the potential for discovery and development of significant new uranium deposits in Crook and Weston counties is fairly high, the amount of activity in uranium exploration cannot be expected to increase in the foreseeable future (five to ten years).

Metallic Minerals

Three metallic mineral districts, made up of Tertiary alkalic igneous complexes, are located in Crook County (map 3-6). Their names and types of deposits are as follows:

1. Bear Lodge Mountains — low-grade gold and rare earth deposits.
2. Black Buttes complex — galena, silver, lead, zinc, and traces of gold.
3. Mineral Hill — anomalous amounts of gold, cassiterite, magnetite, and columbite-tantalite (Hausel and Sutherland 1988).

All of these districts are located on FS lands, and no commercial production is known to be occurring.

Stream sediment samples testing uranium potential of Cretaceous sandstones along the western margin of the Black Hills uplift compiled by Albert (1986) revealed anomalous gold values in western Crook County and northeastern Weston County. Gold content ranged between 0.20 to 0.41 parts per million (ppm). The original source of the gold is believed to be volcanic ash falls. It is not known whether any of this gold is present in commercial quantities.

Salable Minerals

Salable minerals include, but are not limited to, common varieties of sand, stone, gravel, pumice, cinders, clay, and petrified wood. Disposal is authorized by the Mineral Materials Act of 1947, as amended. Historically, salable minerals have been used in the planning area for building materials, road surfaces, and tools. Today, mineral materials are used primarily for building and maintaining roads and activities associated with the oil and gas industry.

In the Newcastle area there are several different forms of stone aggregate materials which are used for construction projects: sand and gravel, sandstone, shale, limestone and dolomite, and igneous and metamorphic rocks (granitic gneiss).

Sources of mineral materials for aggregate are more readily available in Weston and Crook counties than in Niobrara County. Deposits of sand and gravel, limestone, and shale are scattered throughout Weston and Crook counties and are used primarily as aggregate materials for road surfacing by state and county agencies (map 3-7). A few gravel deposits are present in terraces along drainage and in some sandstone outcrops in the northern part of Niobrara County. In the southern part of the county a large amount of limestone is present which could be quarried and crushed for aggregate use. A granite outcrop at Bald Butte in southern Niobrara County contains material which could be used as railroad ballast.

Specific mineral material types and their locations within the planning area by county are listed in table 3-4.

TABLE 3-4
MINERAL MATERIAL TYPES AND LOCATIONS

County	Type of Deposit	Location
Crook	Terrace sand and gravel	along drainages; scattered throughout the county
	Shale	northwestern portion of the county
	Alluvial sand and gravel	western and northeastern portions of the county along drainages
	Limestone	eastern portion of county along flanks of Black Hills
Weston	Alluvial sand and gravel	along drainages; scattered throughout the county
	Shale	western 2/3rds of county
	Limestone	along eastern border of county along the flanks of Black Hills
	Terrace sand and gravel	sparse deposits in eastern portion of county along flanks of Black Hills
Niobrara	Alluvial sand and gravel	along drainages in the northern portion of the county
	Limestone	southern portion of the county

At the field office level, disposal of mineral materials is on a case-by-case basis. Applications for salable minerals are reviewed and processed on a case-by-case basis as they are received. Appropriate surface disturbance mitigation requirements are included in the permits (appendix E).

Regular field monitoring inspections of salable mineral permit areas are conducted biannually to ensure compliance and to check for unauthorized use. Material sites average between three and five acres, and sites may be active under various (or successive) permits for from one to ten years. Site reclamation is initiated after the mineral material is removed.

It is the field office's policy to provide sand, gravel, and stone from federal mineral deposits as necessary to meet the needs for construction and maintenance projects in the planning area (USDI, BLM 1981). Although demand for mineral materials in Crook, Weston, and Niobrara counties is low, the maintenance and construction of roadways are necessary to create and maintain a viable economic base for the resource area.

Activity in the mineral material program in the Newcastle Field Office area has been limited in recent years due to the downswing in the economy, locally and statewide. The location of a good portion of the mineral deposits is on private surface.

The primary uses of federal minerals are in the form of free use permits (FUPs) issued to county road and bridge departments. The majority of the FUPs issued are in Crook and Weston counties. Mineral materials permit activity, as of February 1991, for the three counties is shown in table 3-5. Total production from active case files is shown in table 3-6. There are currently no community pits or common use areas in the resource area.

TABLE 3-5
FREE-USE PERMIT ACTIVITY

County	Permits	Free Use Sales	Sand and Gravel	Shales	Limestone
Crook	2	0	0	2	0
Weston	2	1	1	1	1
Niobrara	1	0	1	0	0

TABLE 3-6
TOTAL PRODUCTION FROM FREE-USE PERMITS

Mineral	Production (cubic yards)	Acres (disturbed)
Sand and gravel	2,700	10
Shale	113,299	24
Limestone	1,405,274	30

The recent conversion of Wyoming State Highway Department FUPs to Title 23 Letter of Consent actions has impacted activity and decreased the number of permit areas. The existence of split estate and isolated federal lands (lands surrounded by private surface) significantly impedes the mineral materials program.

Throughout the planning area access to the majority of mineral material sites necessitates negotiation with the surface owner. More than 50% of the mineral material requirements are being met by private sources.

Management opportunities, as identified in the MFP and the unit resource analysis (URA), consist of acquiring more detailed information on the occurrence of aggregate deposits in the planning area and addressing problems related to access (for example, split estate and land use patterns). Some documentation on mineral material sites on public lands within the planning area has been done. The report, "Aggregate Materials of the Newcastle Resource Area" was completed in 1978 (Thomas). Overlays of each county showing areas of identified and unidentified economic resources was compiled in conjunction with the unit resource analysis in 1979 and are located in the Newcastle Field Office (USDI, BLM 1981, 1981a, 1981b). More detailed documentation, such as a map of each county identifying aggregate sites on public lands, particularly those near public roads, is needed. Field verification of these sites would be desirable, also. The most critical economic factor in the selection of material sites (by industry) is transportation distance. Transportation costs are the most sensitive factors affecting construction costs, and nearby sources of aggregate material are an economic advantage.

The amount of activity in the planning area's mineral materials program cannot be expected to increase in the foreseeable future unless economic conditions in the resource area and Wyoming improve, particularly the oil and gas industry.

Geothermal Steam

The eastern portion of the planning area lies within the Madison aquifer. However, no data is available as to whether subsurface temperatures and pressures are suitable for geothermal steam production.

Geologic Hazards

Geologic hazards occur in many forms and to varying degrees in the planning area (map 3-8). The most acute geologic hazard is hydrogen sulfide gas liberated by oil and gas operations. Other geologic hazards in their approximate order of importance are landslides, shrinking and swelling clays, radon and selenium, earthquakes, and windblown sand.

Hydrogen Sulfide

Hydrogen sulfide is a flammable, extremely toxic gas that occurs in two areas in the planning area (map 3-9). In western Crook and northwestern Weston counties, the gas is the result of secondary recovery operations and is associated with petroleum tank and treater facilities in fields undergoing secondary or tertiary recovery. Hydrogen sulfide occurs in at least 30% of the wells. Where present, concentrations are usually between 0.2% and 0.6% (0.6% is lethal).

In central Niobrara County, hydrogen sulfide occurs as a natural gas in some petroleum reservoirs. Some wells have concentrations of 20% or more; gas from one well in the Newcastle area is 48% hydrogen sulfide. The gas may occur in dangerous quantities in all oil and gas operations from drilling through plugging and abandonment.

In central Niobrara County where hydrogen sulfide is native, a contingency plan is required for all drilling, workover, and plugging operations that involve potential hydrogen sulfide-bearing horizons on federal minerals. No contingency plan is required for drilling, workover, or plugging operations in Crook or Weston counties.

A radius of exposure is analyzed on federal mineral production facilities in hydrogen sulfide areas. Based on the results of that analysis, contingency plans may be required.

Landslides

Most landslides are in the Black Hills area of Crook County but several have been identified in other parts of the planning area. Maps 3-10, 3-11, and 3-12 are generalized landslide maps for each county in the planning area (WGS 1989). All types of landslides, active as well as inactive, are shown.

The BLM has no management directives for hazards caused by landslides. If the BLM receives a request to permit an action in a landslide area, the hazard would be addressed at that time.

Shrinking and Swelling Clays, Radon and Selenium, Earthquakes, and Windblown Sand

The extent of these geologic hazards is not known, but they are not thought to be extensive in the planning area. The BLM also has no specific management plan for them.

Shrinking and swelling clays are mainly due to the absorption and desorption of water into bentonite. In the planning area, several geologic formations contain bentonite. Shrinking and swelling clays can damage structures if enough water is present to cause swelling. This occurs near the surface and can usually be controlled by adequate drainage and the amount of water that is allowed to contact the bentonite. Radon is a product of the natural radioactive decay of uranium and should be anticipated in areas with high uranium content. Many areas of uranium mineralization are present in the area. Data on radon and selenium are sparse and only very generalized. Background radiation values from Harris (1989) do not show any areas of unusually high gamma radiation in the planning area.

Selenium in potentially toxic amounts may be present in the Newcastle area. Case and Cannia (1988) show an area extending from northwest to southeast across the resource area with geologic formations that have the potential to support vegetation that may be highly toxic to animals in localized areas (map 3-13). Selenium indicator plants are present in the area; however, few if any cases of selenium poisoning have occurred.

Earthquake epicenters have been reported in and near the planning area (Case et al. 1990) but none had a magnitude greater than five on the Richter scale, which is the threshold for damage. Case (1990) indicates that the earthquake danger in the planning area is low.

Windblown sand, although present in the Newcastle area, appears to be a very minor geologic hazard (map 3-14).

Paleontology Resources

Summary of Paleontological Work in the Lance Creek Area

The first recorded discovery of dinosaurs from the Lance Creek area occurred in 1888, and collecting began in 1889. For three years, John B. Hatcher and crews from Yale University excavated dinosaur skulls and skeletons, discovered the first major concentrations of Cretaceous mammal teeth, and sent great quantities of fossils to museums in the East (Hatcher, 1893, 1896; Hatcher, Marsh, and Lull 1907). Although horned dinosaurs were first discovered in Montana in the 1850s, and from southwestern Wyoming in 1872, (Hatcher, Marsh, and Lull 1907), the discoveries at Lance Creek in the 1880s were the most complete and spectacular.

In the century since the first discoveries at Lance Creek, major museums from all over the United States have collected display specimens here—among them, the Geological Museum, University of Wyoming; Yale Peabody Museum; the American Museum of Natural History (New York City); Princeton University; University of Kansas; the Field Museum (Chicago); the Carnegie Museum (Pittsburgh); the University of California Museum of Paleontology (Berkeley); and the South Dakota School of Mines. Specimens from Lance Creek are also on display at the United States National Museum, and even in Europe (Natural History Museum of Paris; Geological Museum at Delft, Netherlands).

But museum displays are not the only noteworthy fossils from Lance Creek. Many small fossils of mammals, fish, birds, turtles, crocodiles, salamanders, lizards, and plants from this area have been collected for research and study by paleontologists trying to understand the changes that occurred about 65 million years ago at the end of the Age of Dinosaurs. Publications by Gilmore (1910, 1915, 1916), Clemens (1963, 1966, 1973), Estes (1964, 1965, 1969), Estes and Sanchiz (1982), Estes and Berberian (1969), Fox (1976), Carpenter (1982), Brodkorb (1963, 1970), and Ostrom and Wellnhofer (1990) are among the most significant. The Lance Formation may also provide information about how and why dinosaurs became extinct. Bohor and others (1987) have identified a site in eastern Wyoming where they recognize a layer of rock thought to contain material from a comet or meteorite that hit the earth about 65 million years ago.

Fossils occur in most sedimentary rocks and are widespread throughout the Newcastle planning area. Most are invertebrates (animals without backbones), but there are areas where vertebrates (animals with backbones) are well known. We consider vertebrate fossils to be significant, nonrenewable resources. Some occurrences of invertebrate and plant fossils are also noteworthy.

The Lance Creek Fossil area, nominated by the NPS as a NNL in 1966, was enlarged and designated in 1973 to recognize these resources. Only about 12% of the area of the NNL is BLM-administered public land surface although we administer some 70% of the mineral estate in this area. The NPS is responsible for administering and implementing the NNL program.

The Lance Formation in the Lance Creek area has produced skulls and skeletons of horned dinosaurs, duckbilled dinosaurs, and primitive mammals. Although horned dinosaurs and mammals were found earlier in other areas, those from Lance Creek were the best-preserved specimens known at the time of their discovery (Hatcher, Marsh, and Lull 1907). The American Museum of Natural History (New York) and the University of California Museum of Paleontology (Berkeley) have collected and identified many specimens of fish, amphibians, turtles, lizards, snails, crocodiles, birds, and mammals but little dinosaur material (Clemens, 1963, 1966, 1973; Estes 1964). Additional localities and specimens are still being discovered and described (Galton and Sues 1983; Naylor 1983; Carpenter 1982; Estes and Sanchiz 1982; Whitmore 1985; Fox 1976; Ostrom and Wellnhofer 1990).

An inventory of paleontological resources in the Lance Creek NNL was compiled under contract for us in 1979. William G. Melton of the Department of Geology, University of Montana, summarized published research about the Lance Formation and other geologic units in the area. Unfortunately, this report repeated some earlier misconceptions and is also now largely out of date. Current research in the Lance Creek area is focused on changes in the kinds of animals and plants that lived during and after the end of the Age of Dinosaurs. Scientific debate over the events and conditions that led to dinosaur extinction continues, and rocks in the Lance Creek area may represent the Cretaceous/Tertiary boundary, the transition from the Age of Dinosaurs to the Age of Mammals (Bohor et al. 1987).

Noteworthy fossils have also been found along the Hat Creek Breaks, where sediments from the Age of Mammals contain skeletons of primitive cats, dogs, camels, horses, rodents, and rabbits. Most of these animals are extinct species but would still look almost familiar.

Marine reptiles and fish are found in deposits of Mesozoic age (25 to 70 million years old) throughout the Newcastle area. Jurassic dinosaurs—giant sauropods, the carnivore Allosaurus, and early duckbills—along with primitive mammals and other animals occur in the Morrison Formation where it is exposed around the Black Hills.

HAZARDOUS MATERIALS

The BLM has committed to the Office of Management and Budget to compile an inventory of all hazardous oil and gas wells for potential hazardous waste contamination by 1998. This inventory is to be conducted as the first step toward compliance with federal and state laws and regulations managing hazardous wastes on public lands. The planning area has 4,957 oil and gas well bores in all stages of completion, abandonment, and production. Well sites which would have used drilling muds with heavy metals would be inspected first. Another high priority inventory for oil and gas fields are those fields within 1 mile of municipal water supplies and those fields where deep formations are drilled.

LANDS AND REALTY

Landownership

The planning area is comprised of approximately 5 million acres in Crook, Niobrara, and Weston counties. The BLM administers about 291,000 acres (6%) of public lands (BLM-administered federal surface and mineral estates). The BLM also administers 1.4 million acres of "split estate," federal minerals and nonfederal surface (table 1-1 in chapter 1).

The public lands in the planning area consist primarily of small, isolated tracts. There are few areas of concentrated public lands. The landownership in the planning area is shown on the "Surface Ownership" map in the back pocket of this document. Of the public lands in the planning area, 60% have legal access although only 38% have practical legal vehicle access.

Land Disposals

Land disposals in the planning area have been completed for both exchanges and sales. There were 13 land sales, totaling 616 acres, from 1985 through 1989. There were three land exchanges, totaling 2,016 acres, from 1985 through 1990. Appendix B contains a detailed discussion of the Casper Field Office's goals for landownership adjustments.

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Local demand for land disposal actions has been low because of such things as high market value, processing timeframes, lower workload priority, and lack of funding for processing small parcels (1 to 120 acres) of public land. If these current practices continue, the demand for disposal actions would not be expected to increase significantly.

Land Use Authorizations

All public lands, except some withdrawals and the Whoopup Canyon ACEC, have been available for rights-of-way and temporary use permits. There are 317 rights-of-way and 2 temporary use permits affecting approximately 4,000 acres of public lands in the planning area.

The majority of rights-of-way are granted for access roads, pipelines, and electrical distribution lines associated with oil and gas wells and production facilities. These rights-of-way may be temporary (six months to two years) for wells which are dry holes or used for an extended period (more than two years) when wells produce oil or gas.

The number of rights-of-way granted averages from 10 to 15 per year and may fluctuate depending on the level of oil and gas activities in the area.

Rights-of-way are located next to existing facilities whenever possible; common use is required whenever feasible. Utility corridors have not been designated because of the scattered public land pattern in the Newcastle area. Only existing utility and transportation rights-of-way have the potential to decrease the need for new rights-of-way routes; for example, power lines or buried telephone cables that use existing road rights-of-way.

Outside Influences

The lands program is strongly influenced by the activities of private landowners, oil and gas operators, and utility companies due to the scattered pattern of public lands within the planning area. The majority of land use authorization and disposals will continue to be influenced by projects which originate on lands other than BLM-administered public lands.

Classifications and Withdrawals

Classification and withdrawals in the planning area are listed in table 3-7. Classifications and withdrawals are used to protect resource values or to restrict land use authorizations or mineral entry (map 3-15).

LIVESTOCK GRAZING

There are 312 ranch operators that graze livestock on the public land in the Newcastle area. These ranchers generally have a low percentage of public land in their total operation. Many have 5,000- to 10,000-acre ranches with scattered 40- to 80-acre tracts of public land. Only 65 operators have leases containing more than 1,000 acres of public land.

Approximately 282,000 acres of public land and 48,000 AUMs are leased for livestock grazing (table 3-8). An AUM equals about 800 pounds of dry forage. Carrying capacities for livestock average about 6 acres per AUM.

Lease periods vary in the planning area; however, some ten-year grazing leases are being issued. As on-the-ground monitoring of ranch units obtain information on kinds and numbers of livestock and seasons of use, more ten-year leases will be issued. Exceptions to this procedure will be made when private leased land is involved. In such cases, the term of the federal lease will match the private lease term.

Cow-calf operations are the norm in the area, but there are some sheep and yearling cattle operations. Generally, the season-of-use varies from year-long to five to six months (mid-May through October) in all counties.

Rangeland conditions are generally good (table 3-8). Livestock forage use is basically uniform, but situations exist where livestock distribution and thus use could be improved. This situation exists where livestock waters are insufficient, especially in rough terrain.

Recent evaluations indicate the trend in range conditions to be static or improving. This conclusion is based on professional observation, consultation with Natural Resources Conservation Service (NRCS) (formerly the Soil Conservation Service) personnel and local ranchers, use of current NRCS range site guides, and Phase I watershed studies. The Phase I watershed studies gathered basic data for soils, vegetation, and erosion on about 87,000 acres in Niobrara County in 1978.

The predominant vegetation type in the planning area is sagebrush grasslands. However, the vegetation ranges from sparse saltbush and grass on shaley soils of the plains to timbered areas of juniper and pine occurring on ridges and in rougher areas.

RECREATION RESOURCES

Recreation activities on public land in the resource area are unstructured and dispersed in nature. There are no developed recreation sites in the planning area. The main recreational activity is hunting, primarily for

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TABLE 3-7
CLASSIFICATIONS AND WITHDRAWALS IN THE PLANNING AREA

Classification or Withdrawal	County	Type of Segregation	Acreage	Surface Management Agency	Review Status	Comments
Coal classification GLO O 05/04/1909	Weston	none	11,520	BLM, private, state	pending	designated lands valuable for coal, but did not segregate against surface disposal
Coal classification GLO O 05/15/1909	Weston	none	7,040	BLM, private, state	pending	designated lands valuable for coal, but did not segregate against surface disposal
Coal classification GLO O 11/14/1913	Niobrara Weston	none	960 92,160	BLM, FS, state	pending private	designated lands valuable for coal, but did not segregate against surface disposal
Coal classification GLO O 05/12/1911	Niobrara Weston	none	5,120 92,160	Private	pending	designated lands valuable for coal, but did not segregate against surface disposal
Coal classification GLO O 11/04/1913	Niobrara	none	7,680	BLM, private, state		designated lands valuable for coal, but did not segregate against surface disposal
Coal land classification BLM O 07/15/1964	Crook	none	920	Private	pending	designated lands valuable for coal; surface disposal completed prior to classification
Power site classification No. 375, Belle Fourche River SO 08/25/1945; W92933	Crook	location, sale, or entry	437	BLM, BOR	pending	subject to valid existing rights. Any actions on these lands are subject to this classification
Coal classification SO 10/10/1906	Crook	none	46,080	BLM, FS, private, state, Air Force	pending	designated lands valuable for coal, but did not seg-

						regate against surface disposal
Coal classification SO 10/15/1906	Crook	none	23,040	BLM, private, state	pending	designated lands valuable for coal but did not segregate against surface disposal
Withdrawal Executive Order 6441 11/21/1933	Crook	settlement, location, sale, or entry	715	FS	pending	For classification and in aid of legislation
Withdrawal Executive Order 7616 05/13/1937	Crook Weston	settlement, location, sale, or entry. Open to mineral entry	320 85,249	FS	N/A	Thunder Basin National Grassland
Withdrawal	Crook	settlement, location, sale, or entry. Open to mineral entry	165,994	FS	N/A	Black Hills National Forest
Withdrawal SO 03/10/1949 W17424	Crook	location, sale, or entry. Open to mineral leasing	637	BOR	reviewed in 1988; recommended for continuation	Keyhole Reservoir
Withdrawal Executive Order 10046	Weston Niobrara	none	142,218 840	FS	N/A	Thunder Basin National Grassland
Withdrawal Public Law 622 01/15/1927	Weston Crook	none	6,499 2,226	FS	N/A	Black Hills National Forest

General Land Office order of....
Forest Service
Bureau of Reclamation
Secretarial Order
BLM responsible for mineral leasing only.

TABLE 3-8
"I" AND "M" CATEGORY ALLOTMENTS MONITORED AS OF SEPTEMBER 1989

Operator Number	Operator Name	Allot-ment Number	BLM Acreage	State Acreage	Private Acreage	Total Acreage	Amount of Live-stock	Kind of Live-stock[a]	AUMs	Percent Federal Range	Acreage per AUM	Range Condition of Public Land			Season of Use[b]
												Excel-lent	Good	Fair	
"I" CATEGORY ALLOTMENTS															
49-8220	Busenitz, M.A.	04207	3,100	160	6,040	9,300	30	C	360	33.0	8.61		2,860	240	YL
49-8342	McDonald, J.O.	04319	1,026		3,929	4,955	15	C	187	21.0	5.49		106	920	YL
49-8385	Battle Creek Ranch	04360	4,727	1,920	9,465	16,122	37 541	C	437	29.0	10.84	680	3,934 3,937	120	YL Sp/Su/F
49-8412	Bush, F.A., Inc.	04387	4,501				864								Sp/Su/F
49-8045	Bush, F.A., Inc.	04039	5,323	2,880	13,840	26,544	117	C	1,405	37.0	6.00		8,204	1,620	Sp/Su/F
"M" CATEGORY ALLOTMENTS															
49-8001	Ackerman, D.	04000	2,772	640	4,571	7,983	33	C	394	35.0	7.03		1,812	960	YL
49-8010	Baker, Paul L.	14010 14009	1,360 441		7,519 1,322	8,878 1,762	9 18	C C	108 215	15.6	5.05			1,801	YL YL
49-8012	Baldwin, D.	14011	3,664	2,240	10,538	16,442	50	C	602	22.0	6.00	80	2,704	880	YL
49-8013	LS&J Livestock	14012	4,552	1,920	7,760	14,232	76	C	908	32.0	4.57		80	4,472	YL
49-8022	Hamilton's, Inc.	04041	3,414	640	6,600	10,654	72 71	C C	144 428	8.0	7.90		3,414		Sp Sp
49-8046	Reisland, W.	04040	5,328	1,520	9,280	16,128	60	C	724	33.0	7.36		3,488	1,840	YL
49-8048	Bush, R.D.	04042	4,172	640	4,920	9,732	54	C	642	43.0	6.50		3,352	820	YL
49-8050	Stoddard, R.	04044 04043	2,826 280	640	10,170	13,916	250	C	620	22.0	5.00		2,800	306	Sp/Su/F Sp/Su/F
49-8057	Christensen, C.	04051	2,491		6,754	9,245	85	C, S	354	26.0	7.00		2,941		YL
49-8058	Christensen, C.	04052	600	640	3,940	5,180	31	C, S	91	11.0	6.59			600	YL
49-8068	Darrow, G.	04062	1,480				12	C							YL
49-8069	Darrow, G.	04063	2,092	2,206	6,900	12,678	25	C	448	12.7	7.90		3,572		YL

TABLE 3-8
"I" AND "M" CATEGORY ALLOTMENTS
(continued)

Operator Number	Operator Name	Allotment Number	BLM Acreage	State Acreage	Private Acreage	Total Acreage	Amount of Livestock	Kind of Livestock[a]	AUMs	Percent Federal Range	Acreage per AUM	Range Condition of Public Land			Season of Use[b]
												Excellent	Good	Fair	
"M" CATEGORY ALLOTMENTS (continued)															
49-8080	Dixon, C.R.	04073	2,499		11,200	13,699	36	C	436	19.0	5.70		1,898	601	YL
49-8081	Dixon, H.B.	04074	3,355	640	2,640	6,634	177	C	619	50.2	5.40		1,995	6,360	Sp/Su
49-8084	Dorsett, F.	04077	1,286		1,578	2,864	20	C	138	45.0	9.30			6,286	Sp/Su/F
49-8094	Stoddard, R.	04087 04086	2,065 10,401	3,783	22,340	38,590	140 29	C C	1,673 345	32.0	6.17	160	10,747	1,560	YL YL
49-8097	Foster, C	04090	1,400		1,960	3,360	84	C, S	176	42.0	7.80		1,400		Sp/Su/F
49-8145	HKC Ranch, Inc.	04135	1,000		1,560	2,560	20	H	99	39.0	10.00		1,000		Sp/Su/F
49-8150	J&J, Inc.	04148	1,320	640	3,940	5,900	18	C	220	22.4	6.00		1,040	280	YL
49-8167	Joss Ranches, Inc.	04157	8,476	21,758	20,000	50,234	109	C	1,309	17.0	6.0		8,476		YL
49-8181	Schlosser, J.C.	04170	4,375				25	C	816						YL
49-8257	Schlosser, J.C	04238	2,320	1,290	12,675	20,660	35	S	1,260	32.0	5.50		6,355	360	YL
49-8186	Middleton, B.	04175	2,189	1,280	9,508	12,977	24	C	292	16.0	4.38		2,189		YL
49-8221	Crow Creek Ranch	04208	364		13,817	14,181	11	C	61	2.0	5.96		14,181		Sp/Su/F
49-8223	Moore, C.M.	04210	1,637	1,280	7,200	10,117	41	C	225	19.0	7.20		1,636		Sp/Su/F
49-8242	Ondriezek, J.	04228	1,318		4,871	6,189	17	C	200	21.0	6.59		1,198	120	YL
49-8258	Pierce, V	04244	1,476		3,440	4,916	15	C	182	30.0	8.11		1,156	320	YL
49-8261	Stoddard Ranches	04084 04249 04247	1,606 640 3,149	640 843	5,250 7,822 5,668	6,856 9,102 9,660	15 31 128	C C C	60 109 518						W Sp Sp
	Total (49-8261)		5,395	1,483	18,740	25,618			848	21.0	6.36		5,395		
49-8265	Putnam, L	04254	1,440		3,721	5,161	14	C	178	28.0	8.09		1,440		YL

TABLE 3-8
"I" AND "M" CATEGORY ALLOTMENTS
(continued)

Operator Number	Operator Name	Allot-ment Number	BLM Acreage	State Acreage	Private Acreage	Total Acreage	Amount of Live-stock	Kind of Live-stock[a]	AUMs	Percent Federal Range	Acreage per AUM	Range Condition of Public Land			Season of Use[b]
												Excel-lent	Good	Fair	
"M" CATEGORY ALLOTMENTS (continued)															
49-8269	Quest, H.	04258	1,363		2,602	3,965	32	C	384	3.0	3.50		1,363		YL
49-8279	Jackson, K.	04268	1,480	960	13,768	16,208	25	C	306	9.0	4.83		760	720	YL
49-8293	Robison, J.	04278	574		1,797	2,371	7	C	87	11.6	6.60		574		YL
49-8295	Rocky Point Grazing	04280	7,628	1,643	19,062	28,333	613	C, S	2,590	27.0	2.95	160	6,428	1,040	Sp/Su/F
49-8296	Porter, F.	04281	760		4,840	5,600	12	C	142	14.0	5.30	160	560	40	YL
49-8303	Schmidt, H.	04288	5,075		12,640	17,715	79	C	949	28.6	5.35		4,715	360	YL
49-8304	Schmidt, H.	04289	1,266		4,867	6,093	21	C	254	20.1	4.83		200	1,026	YL
49-8310	Sears, J.	04293	2,134	1,680	9,360	13,174	35	C	430	16.0	4.70		2,054	80	YL
49-8311	Slagle, E.A.	04294	1,120	880	3,720	5,720	22	C	266	20.0	5.00		1,120		YL
49-8620	Slagle, E. A.	04303 04302	1,106 2,360	1,560	6,240 12,460	23,726	43 19	C C	520 229	18.0	4.62		3,466		YL YL
49-8351	Bruegger, S.	04328	5,236	1,680	19,747	25,163	209	C, S	777	19.5	5.80		240	2,835	YL
49-8361	True Ranches	04337	7,060	2,880	25,880	35,820	73	C	879	19.7	8.03	80	6,060	620	YL
49-8179	Flores, A.D.	04168	2,759				28	C	335						YL
49-8381	Krust, W.T.	04356	2,792	1,280	13,360	20,191	42	C	507	27.5	6.90		5,551		YL
49-8382	Todd Ranches, Inc.	04357	560		2,040	2,600	18	C	150	22.0	3.70		560		Su/F
49-8399	Zerbst, W.	04374	4,216	1,360	6,640	12,216	51	C	615	34.5	6.85		3,576	640	YL
49-8403	Slattery, J.	04378	720		360	1,080	23	C	148	6.6	4.80		720		Sp/Su/F
49-8421	McGuire, W.G.	04396	4,793		7,643	12,436	324	C, S	660	38.5	7.26		4,793		Sp/Su/F
49-8435	Simon, M.	04409	1,228		1,120	2,348	43	C	214	52.0	5.73		1,228		Sp/Su/F

TABLE 3-8
"I" AND "M" CATEGORY ALLOTMENTS
(continued)

Operator Number	Operator Name	Allotment Number	BLM Acreage	State Acreage	Private Acreage	Total Acreage	Amount of Livestock	Kind of Livestock[a]	AUMs	Percent Federal Range	Acreage per AUM	Range Condition of Public Land			Season of Use[b]
												Excellent	Good	Fair	
"M" CATEGORY ALLOTMENTS (continued)															
49-8047	Simon, M.	04119	840		4,110	4,950	25	C	159	16.0	5.28		840		Sp/Su/F
49-8154	Simon, M.	04144	603		3,200	3,803	11	C	68	15.0	8.86		603		Sp/Su/F

[a] C = cattle
S = sheep
H = horse

[b] YL = yearlong
Su - summer
W = winter
Sp = spring
F = fall

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mule deer and pronghorn antelope. Hunt areas for deer, antelope, and elk are shown on maps 3-16, 3-17, and 3-18. The demand for recreational shooting of prairie dogs has increased substantially in the past five years. Large-scale poisoning projects have occurred both on private land and other federal land in the region. In 1992, prairie dogs occurred on approximately 3,300 acres of public land in the planning area (table 3-9). Varmint shooters from as far away as Michigan, Iowa, and California come to the area to hunt the animals. The main factor limiting this activity in the past has been public access.

TABLE 3-9
ACREAGE OF PRAIRIE DOG TOWNS ON PUBLIC LANDS IN 1982 AND 1992

	Crook County	Weston County	Niobrara County	Total
Number of towns	16	8	42	66
Acres on BLM-administered lands				
1982	1,108	323	1,186	2,617
1992	730	466	2,156	3,352
Average size of town (acres)	140	184	138	—

Demand for access to public lands for hiking, horseback riding, cross country skiing, and mountain biking is increasing in the planning area. Mountain bike trails crossing public land have been identified in at least two publications. Opportunities exist to develop existing trails with minimal cost or begin new construction. In most cases existing roads and trails are the preferred routes and only require marking and periodic maintenance. Trails are often used for multiple activities. Hiking, bicycling, horseback riding and cross country skiing often use the same trails.

Marking and maintenance of trails for these activities is recommended for two areas on public land in Weston County (Elk Mountain, T. 43 N., R. 60 W., and Summit Ridge, T. 44-45 N., R. 60 W.). Other opportunities for trail designation will be explored in the remainder of the planning area.

Additional recreational use of public land is made through sightseeing, camping (generally associated with hunting), photography, and other casual use such as rock-hounding.

A limited number of professional hunting outfitters have special recreation permits (SRPs) for the commercial use of public land in the planning area. Demand is not high for outfitter services, but it is increasing as the popularity of private landowners leasing hunting rights on their land to outfitters increases. Outfitters must obtain a SRP to conduct outfitting and guiding activities since much of the available public land is within established private ranches. Currently, the demand for SRPs is not high enough to assign limitation on use areas to outfitters. However, if demand increases to the level that resource damage or public safety is affected, assignments will be made on a case-by-case basis. These outfitter SRP limitations should not affect the public use of these lands for any legal activity.

The main emphasis in the recreation program will be on the acquisition of access to existing public land with higher recreation potential through exchanges or purchases of access agreements. Of the public land in the planning area, 60% has legal access; however, only 38% has practical vehicle access. Map 3-19 shows areas of greatest concern where additional access would benefit the public.

To avoid conflicts with adjacent landowners, boundary identification is needed to assist the public in locating the division between public and private land . The scattered nature of public lands in this area makes the potential for public lands trespass conflicts high.

ORV Use and Designations

ORV use designations are required for all public lands covered by this management plan. The purpose of these designations is to protect identified resource values and at the same time to allow public use. Three categories of designations are available: open for all ORV uses and activities, closed to all ORV uses and activities, and limited uses and activities by ORVs. For more information on ORV designations, please see the Glossary.

Due to the nature of existing uses in the planning area and the scattered land pattern that exists, all public land outside the Whoopup Canyon ACEC (which is closed to vehicle use) are designated as limited to existing roads and trails. This designation was established to provide access to public lands while protecting the landscape and resources from off-road vehicle damage. The BLM retains the authority to permit the construction of new roads or trails to accomplish program goals and for administrative use.

Vehicle travel off existing roads and trails can be authorized to accomplish necessary tasks if such travel does not result in resource damage or encourage additional use on a regular basis. Random off-road travel and creating new roads or trails not specifically authorized by the BLM is not permitted.

SOCIOECONOMICS

Characteristics

The planning area has been historically rural in character and sparse in population with agriculture occupying an important part of the area's development. This importance has diminished as mineral resources, first coal, then oil and gas, have exceeded agriculture as base industries dominating the economics of the region. Oil development and production in the planning area suffered a significant downturn after 1985 which is reflected in the economic data. While there has been some recovery as the economy adjusted to a lower level of economic activity in oil, agriculture suffered a decline at about the same time, but it has recovered to some degree.

Population

Fifty-one percent of the planning area's population reside in towns of 760 or more people, while the remaining 49% live in small communities (USBC 1991). Lusk, Newcastle, and Sundance make up about 39% of the planning area's population and constitute the county seats and local trade centers for Niobrara, Weston, and Crook counties, respectively.

From 1980 through 1996, the planning area population decreased 3.25% compared to a 1.23% increase for the state. Breaking this change down into segments, 1980 through 1990 saw a decline in both the state's and planning area's population by 4.38% and 7.72%, respectively. From 1990 to 1996 the state's population grew by 5.87% while the planning area's population grew by a slower rate of 4.84% (table 3-10). Although the population increased for both the state and the planning area during this period, the planning area has lost population from 1980 to 1996. To put this into perspective, the anticipated loss in population for the planning area is about 3.6 times the anticipated decline for the entire state from 1980 through 1996.

TABLE 3-10
BASELINE AND PROJECTED POPULATION[a] GROWTH FOR SELECTED YEARS

Year	Wyoming	Crook	Niobrara	Weston	Planning Area
1980	474,185	5,345	2,954	7,188	15,487
1990	453,398	5,301	2,491	6,499	14,291
1996	480,011	5,764	2,636	6,583	14,983
% Change '80-'90	-4.38%	-0.82%	-15.67%	-9.59%	-7.72%
% Change '90-'96	5.87%	8.73%	5.82%	1.29%	4.84%
% Change '80-'96	1.23%	7.84%	-10.77%	-8.42%	-3.25%

[a] Census Bureau midyear population estimates. Estimates for 1990-1996 reflect county population estimates available as of March 1998.

Source: Department of Commerce, Economics and Statistics Administration, Bureau of Economic Analysis (USDC, BEA) 1969-1996.

Healthcare

There are three county hospitals, each of which is located in a respective county seat, with a total bed capacity of 60 beds and an average occupancy rate of 24% (WDHSS 1989-1990). There are also three clinics, a nursing service, three nursing homes, and a retirement home (WDHSS 1989-1990). In 1989, there were seven full-time physicians, 15 part-time doctors, and three physicians' assistants (Alexander, Mahoney, and Sharp 1989). Most of the part-time doctors are specialists such as cardiologists, urologists, neurologists, and orthopedists who come into one or more of the communities biweekly or bimonthly. In 1989, there were also four full-time dentists and one part-time dentist in the area. There are seven ambulances available and about 34 emergency medical technicians in the area.

Economic Growth and Activity

Economic growth in the planning area is indicative of the economic activity in the area. An indication of the economic viability of the area can be shown by employment comparisons and personal incomes that are all measured over time. This is illustrated in tables 3-11 and 3-12.

In addition to the other economic sectors, it is important to note the importance of agricultural roots historically important to the health of the area. Therefore, this sector will be highlighted in table 3-13, which illustrates the income and expenses from 1987 through 1996.

The statistics for table 3-13 are from the U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Measurement Division. They explain the derivation of the table as follows:

> "Farm Income and Expenses (table CA45) provides detailed estimates of gross farm income and production expenses. Gross farm income consists of estimates for the following items: cash receipts from marketing of crops and livestock; income from other farm-related activities, including recreational services and the sale of forest products; government payments to farmers; value of food and fuel produced and consumed on farms; gross rental value of farm dwellings; and the value of the net change in the physical volume of farm inventories of crops and livestock. Production expenses consist of: purchases of feed, livestock, seed, fertilizer and lime, and petroleum products; hired farm labor expenses (including contract labor); and all other production expenses (e.g. depreciation, interest, rent and taxes, and repair and operation of machinery).
>
> Production expenses and gross farm income excluding inventory change are used to calculate realized net income of all farms (gross farm income, excluding inventory change, minus production expenses equals realized net income). Realized net income is then modified to reflect current production through the change-in-inventory adjustment and to exclude the income of corporate farms and salaries paid to corporate officers. These modifications yield BEA's estimate of farm proprietors' income.
>
> The State totals used to estimate farm income at the county level are taken from the component detail of the farm income estimates prepared by the Economic Research Service (ERS), U.S. Department of Agriculture (USDA), with adjustments made to account for definitional differences between the National Income and Product Accounts (NIPA) and ERS's farm income accounting standards.
>
> The methods used to estimate farm proprietors' income at the county level rely heavily on data obtained from the censuses of agriculture and on selected annual county data prepared by the State offices affiliated with the National Agricultural Statistics Service (NASS), USDA. The NASS data are used, wherever possible, to interpolate and extrapolate the census-based estimates to non-census years. Administrative records data from the Agricultural Stabilization and Conservation Service of USDA are used directly to account for total government program payments to farmers."

Table 3-13 indicates total cash receipts, measured in current dollars for the agricultural sector in the planning area, was slightly over $67 million in 1987. It then peaked at about $96 million in 1991 and dropped to $62.6 million by 1996.

Figures 3-7 through 3-10 compare both current and constant 1996 dollars for the planning area's agricultural receipts. In constant 1996 dollars, the planning area's 1987 receipts were nearly $88.5 million and peaked at about $108 million in 1991. By 1996 agricultural receipts were about $62.6 million. These same figures indicate agriculture in the planning area declined by nearly 30% from 1986 through 1996, measured in constant 1996 dollars.

All three individual counties have also shown a decline, measured in constant 1996 dollars, during this same nine-year period. That decline has varied from a high of nearly 45.3% in Weston County to a low of about 15.2% in Crook County with Niobrara falling between Weston and Crook at slightly over 22.6%. Even though agricultural receipts have fallen during this period, agriculture remains an important component of the planning area's economy.

Labor Force and Employment

In 1980, the total full- and part-time employment for the planning area was 8,824, or about 3.2% of the state's total (USBC, BEA 1969-1996). Employment in the planning area increased about 14% between 1980 and 1996, out-pacing the state's 10.6% increase. Between 1980 and 1990 the planning area's employment grew by only 2.8% as the oil and gas industry weakened. However, during this same time frame, the state's employment fell by 2.2% (table 3-11).

TABLE 3-11
EMPLOYMENT BY PLACE OF WORK[a]

	Wyoming			Planning Area		
	1980	1990	1996	1980	1990	1996
Total full- and part-time employment	279,637	273,453	309,292	8,824	9,067	10,060
By type						
Wage and salary employment	230,707	212,366	236,915	5,917	5,251	5,575
Proprietors employment	48,930	61,087	72,377	2,907	3,816	4,485
Farm proprietors' employment	8,710	8,779	8,724	985	956	956
Nonfarm proprietors' employment[b]	40,220	52,308	63,653	1,922	2,860	3,529
By industry						
Farm employment	14,504	12,475	12,344	1,497	1,227	1,206
Nonfarm employment	265,133	260,978	296,948	7,327	7,840	8,854
Private employment	214,841	201,797	235,208	6,030	6,065	7,071
Ag. serv., forestry, fishing, and other[c]	2,016	3,351	4,855	72	(d)	225
Mining	38,523	20,812	18,090	1,277	823	959
Construction	25,805	15,788	21,132	595	411	494
Manufacturing	10,504	12,136	13,103	513	(d)	637
Transportation and public utilities	19,169	16,602	16,398	604	554	585
Wholesale trade	10,055	7,568	8,260	112	(d)	99
Retail trade	43,998	47,090	57,733	1,216	1,415	1,614
Finance, insurance, and real estate	16,334	17,159	18,808	313	464	534
Services	48,437	61,291	76,829	1,328	1,544	1,934
Government and government enterprises	50,292	59,181	61,740	1,297	1,775	1,783
Federal, civilian	7,534	7,572	7,171	155	194	164
Military	6,335	6,389	6,509	78	86	90
State and local	36,423	45,220	48,060	1,064	1,495	1,529
State	10,908	13,384	13,045	168	240	236
Local	25,435	31,836	35,015	896	1,255	1,293

Source: USDC, BEA 1969-1996.

[a] 1969-1974 based on 1967 Standard Industrial Classification (SIC); 1975-1987 based on 1972 SIC; 1988-1996 based on 1987 SIC.

[b] Excludes limited partners.

[c] "Other" consists of the number of jobs held by US residents employed by international organizations and foreign embassies and consulates in the United States.

(d)Not shown to avoid disclosure of confidential information. Estimates are included in totals.

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TABLE 3-12
PERSONAL INCOME BY MAJOR SOURCE FOR SELECTED YEARS[a]
($000)

	Wyoming			Planning Area		
Income	**1980**	**1990**	**1996**	**1980**	**1990**	**1996**
Personal income (thousands of dollars)	$5,438,559	$7,804,400	$10,362,181	$160,269	$245,823	$309,082
Nonfarm personal income	$5,352,591	$7,660,013	$10,301,194	$150,265	$233,064	$302,969
Farm income[b]	$85,968	$144,387	$60,987	$10,004	$12,759	$6,113
Population (number of persons)[c]	474,185	453,398	480,011	15,487	14,291	14,983
Per capita personal income (dollars)	$11,469	$17,213	$21,587	$10,349	$17,201	$20,629
Derivation of personal income						
Earnings by place of work	$4,453,014	$5,445,183	$6,906,217	$107,613	$135,604	$164,265
less: Personal cont. for social insurance[d]	$233,081	$359,069	$481,168	$5,064	$7,834	$10,840
plus: Adjustment for residence[e]	-$74,005	-$8,673	-$21,346	$8,867	$25,710	$26,388
equals: Net earnings by place of residence	$4,145,928	$5,077,441	$6,403,703	$111,416	$153,480	$179,813
plus: Dividends, interest, and rent[f]	$832,500	$1,679,373	$2,308,919	$33,711	$59,948	$77,638
plus: Transfer payments	$460,131	$1,047,586	$1,649,559	$15,142	$32,395	$51,631
Earnings by place of work						
Components of earnings						
Wage and salary disbursements	$3,532,553	$4,221,261	$5,405,420	$75,204	$85,672	$110,787
Other labor income	$331,096	$413,631	$562,883	$6,638	$9,236	$13,003
Proprietors' income[g]	$589,365	$810,291	$937,914	$25,771	$40,696	$40,475
Farm proprietors' income	$28,435	$93,605	-$9,560	$5,257	$9,448	$1,679
Nonfarm proprietors' income	$560,930	$716,686	$947,474	$20,514	$31,248	$38,796
Earnings by industry						
Farm earnings	$85,968	$144,387	$60,987	$10,004	$12,759	$6,113
Nonfarm earnings	$4,367,046	$5,300,796	$6,845,230	$97,609	$122,845	$158,152
Private earnings	$3,662,864	$3,986,915	$5,234,925	$81,175	$89,007	$118,274
Ag. serv., forestry, fishing, and other[h]	$14,605	$39,269	$54,432	$466	()	$1,489
Mining	$1,135,644	$919,735	$1,021,919	$24,282	$15,477	$24,495
Construction	$540,019	$372,765	$536,027	$10,551	$10,687	$12,533
Manufacturing	$206,256	$278,845	$391,068	$8,201	()	$13,929
Durable goods	$84,143	$122,563	$159,127	$5,070	$8,947	(D)
Nondurable goods	$122,113	$156,282	$231,941	$3,131	()	(D)
Transportation and public utilities	$441,468	$557,762	$653,747	$11,714	$14,607	$20,072
Wholesale trade	$198,660	$190,387	$236,958	$2,029	()	$1,674
Retail trade	$419,791	$527,778	$715,612	$10,552	$14,426	$16,250
Finance, insurance, and real estate	$141,363	$184,118	$314,087	$2,953	$3,420	$5,402
Services	$565,058	$916,256	$1,311,075	$10,427	$15,960	$22,430
Government and government enterprises	$704,182	$1,313,881	$1,610,305	$16,434	$33,838	$39,878

	Wyoming			Planning Area		
Federal, civilian	$143,039	$232,167	$289,986	$2,752	$4,744	$5,657
Military	$55,941	$106,712	$136,204	()	$518	$820
State and local	$505,202	$975,002	$1,184,115	$13,467	$28,576	$33,401
State	$169,097	$301,027	$345,024	$2,684	$5,489	$6,298
Local	$336,105	$673,975	$839,091	$10,783	$23,087	$27,103

Source: USDC, BEA 1969-1996.

[a] 1969-74 based on 1967 Standard Industrial Classification (SIC); 1975-1987 based on 1972 SIC; 1988-1996 based on 1987 SIC.

[b] Farm income consists of proprietors' net income; the cash wages, pay-in-kind, and other labor income of hired farm workers; and the salaries of officers of corporate farms.

[c] Census Bureau midyear population estimates. Estimates for 1990-1996 reflect county population estimates available as of March 1998.

[d] Personal contributions for social insurance are included in earnings by type and industry but excluded from personal income.

[e] The adjustment for residence is the net inflow of the earnings of interarea commuters. For the US, it consists of adjustments for border workers and for certain temporary and migratory workers: Wage and salary disbursements to US residents commuting or working temporarily outside US borders less wage and salary disbursements to foreign residents commuting or working temporarily inside US borders.

[f] Includes the capital consumption adjustment for rental income of persons.

[g] Includes the inventory valuation and capital consumption adjustments.

[h] "Other" consists of wage and salary disbursements to US residents employed by international organizations and foreign embassies and consulates in the US.

() Not shown to avoid disclosure of confidential information. Estimates are included in totals.

() Less than $50,000. Estimates are included in totals.

TABLE 3-13
FARM INCOME AND EXPENDITURES

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Crook County Wyoming										
Total cash receipts from marketings ($000)	22,514	23,275	26,217	27,970	33,471	28,482	34,459	31,974	27,249	25,176
Cash receipts: livestock and products	20,341	21,632	23,916	26,170	30,880	26,098	31,509	30,009	25,037	22,373
Cash receipts: crops	2,173	1,643	2,301	1,800	2,591	2,384	2,950	1,965	2,212	2,803
Other income	4,522	5,881	7,149	4,523	4,936	6,273	6,721	6,442	6,400	7,077
Government payments	909	1,495	3,290	925	1,166	1,892	1,862	1,583	1,088	887
Imputed and miscellaneous income received	3,613	4,386	3,859	3,598	3,770	4,381	4,859	4,859	5,312	6,190
Total production expenses	25,543	26,753	26,976	27,447	30,937	27,520	31,620	33,098	32,931	33,131
Feed purchased	1,488	1,954	1,947	1,630	1,809	2,255	2,353	2,642	2,658	3,017
Livestock purchased	5,770	5,736	5,461	5,613	8,515	4,865	6,246	4,727	4,015	3,650
Seed purchased	148	164	159	146	145	124	141	162	151	167
Fertilizer & lime (incl. ag. chem. 78-fwd.)	471	485	481	422	423	376	436	559	574	631
Petroleum products purchased	1,239	1,205	1,207	1,471	1,437	1,283	1,318	1,471	1,437	1,600
Hired farm labor expenses	1,567	1,691	1,819	1,998	1,933	1,950	2,321	2,780	2,997	2,783
All other production expenses	14,860	15,518	15,902	16,167	16,571	16,667	18,803	20,757	21,099	21,283
Total value of inventory change	185	(2,308)	(2,308)	(112)	4,167	1,405	3,958	(1,549)	1,611	2,581
Value of inventory change: livestock	717	(1,522)	(2,028)	(481)	3,744	2,017	2,076	(494)	193	2,594
Value of inventory change: crops	(532)	(786)	(280)	369	423	(612)	1,882	(1,055)	1,418	(a)
Total cash receipts and other income	27,036	29,156	33,366	32,493	38,407	34,755	41,180	38,416	33,649	32,253
less: Total production expenses	25,543	26,753	26,976	27,447	30,937	27,520	31,620	33,098	32,931	33,131
Realized net income	1,493	2,403	6,390	5,046	7,470	7,235	9,560	5,318	718	(878)
plus: Value of inventory change	185	(2,308)	(2,308)	(112)	4,167	1,405	3,958	(1,549)	1,611	2,581
Total net income including corporate farms	1,678	95	4,082	4,934	11,637	8,640	13,518	3,769	2,329	1,703
less: Net income of corporate farms	164	(a)	622	696	1,071	1,167	806	1,138	638	464
plus: Statistical adjustment	-	-	-	-	-	-	-	-	-	-
Total net farm proprietors' income	1,514	80	3,460	4,238	10,566	7,473	12,712	2,631	1,691	1,239
plus: Farm wages and perquisites	1,011	1,120	1,152	1,298	1,223	1,211	1,334	1,716	1,640	1,816
plus: Farm other labor income	(a)	(a)	55	62	61	55	62	66	72	71
Total farm labor and proprietors' income	2,562	1,241	4,667	5,598	11,850	8,739	14,108	4,413	3,403	3,126
Niobrara County Wyoming										
Total cash receipts from marketings ($000)	17,542	20,257	20,215	20,775	22,287	21,865	22,810	20,063	19,309	17,906
Cash receipts: livestock and products	16,034	18,844	18,972	19,629	21,028	20,719	21,831	19,079	17,942	16,742
Cash receipts: crops	1,508	1,413	1,243	1,146	1,259	1,146	979	984	1,367	1,164
Other income	2,554	3,081	3,747	3,682	3,035	3,551	3,674	3,751	3,704	3,891
Government payments	1,346	1,739	2,318	2,170	1,392	1,546	1,475	1,497	1,270	1,129
Imputed and miscellaneous income received	1,208	1,342	1,429	1,512	1,643	2,005	2,199	2,254	2,434	2,762
Total production expenses	18,360	20,185	19,662	20,347	23,115	21,170	21,880	22,372	22,995	23,128
Feed purchased	1,328	1,701	1,632	1,365	1,459	1,800	1,727	1,964	2,011	2,267
Livestock purchased	5,495	6,266	5,504	5,620	8,115	5,743	6,024	4,000	3,990	3,731
Seed purchased	117	128	119	108	106	83	88	103	94	103
Fertilizer & lime (incl. ag. chem. 78-fwd.)	192	216	229	223	239	232	249	328	338	371
Petroleum products purchased	785	777	777	979	949	863	817	948	940	1,045
Hired farm labor expenses	874	923	979	1,097	1,035	1,047	1,142	1,407	1,546	1,432
All other production expenses	9,569	10,174	10,422	10,955	11,212	11,402	11,833	13,602	14,076	14,179
Total value of inventory change	263	(1,931)	(1,831)	(210)	2,771	1,242	2,203	(813)	1,091	1,975
Value of inventory change: livestock	515	(1,257)	(1,621)	(496)	2,428	1,648	1,515	(256)	359	1,994
Value of inventory change: crops	(252)	(674)	(210)	286	343	(406)	688	(557)	732	(a)

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Total cash receipts and other income	20,096	23,338	23,962	24,457	25,322	25,416	26,484	23,814	23,013	21,797
less: Total production expenses	18,360	20,185	19,662	20,347	23,115	21,170	21,880	22,372	22,995	23,128
Realized net income	1,736	3,153	4,300	4,110	2,207	4,246	4,604	1,442	(a)	(1,331)
plus: Value of inventory change	263	(1,931)	(1,831)	(210)	2,771	1,242	2,203	(813)	1,091	1,975
Total net income including corporate farms	1,999	1,222	2,469	3,900	4,978	5,488	6,807	629	1,109	644
less: Net income of corporate farms	171	153	272	362	274	401	190	(a)	(a)	(a)
plus: Statistical adjustment		-	-		-	-	-	-	-	-
Total net farm proprietors' income	1,828	1,069	2,197	3,538	4,704	5,087	6,617	625	1,060	659
plus: Farm wages and perquisites	575	627	635	704	657	632	696	892	961	945
plus: Farm other labor income	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)
Total farm labor and proprietors' income	2,425	1,720	2,866	4,281	5,399	5,751	7,350	1,554	2,063	1,645
Weston County Wyoming										
Total cash receipts from marketings ($000)	26,991	26,445	28,168	28,382	40,350	26,449	28,370	25,828	23,199	19,477
Cash receipts: livestock and products	26,165	25,611	27,276	27,590	39,239	25,316	27,341	24,927	22,216	18,635
Cash receipts: crops	826	834	892	792	1,111	1,133	1,029	901	983	842
Other income	1,959	2,157	2,577	2,042	1,977	2,269	2,387	2,505	2,623	2,633
Government payments	347	494	966	441	368	474	414	440	414	192
Imputed and miscellaneous income received	1,612	1,663	1,611	1,601	1,609	1,795	1,973	2,065	2,209	2,441
Total production expenses	32,042	31,315	29,936	28,014	36,800	24,508	25,897	25,057	25,301	24,548
Feed purchased	2,522	2,901	2,669	2,032	2,066	2,369	2,309	2,561	2,596	2,929
Livestock purchased	17,055	15,756	14,225	12,624	21,271	8,927	9,632	6,781	6,406	5,235
Seed purchased	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)
Fertilizer & lime (incl. ag. chem. 78 fwd.)	164	156	155	130	124	103	112	143	147	162
Petroleum products purchased	736	688	687	821	785	683	656	735	730	810
Hired farm labor expenses	1,340	1,375	1,442	1,560	1,455	1,418	1,589	1,958	2,096	1,987
All other production expenses	10,202	10,411	10,725	10,812	11,058	10,969	11,567	12,832	13,280	13,377
Total value of inventory change	302	(1,298)	(1,593)	(385)	3,370	1,257	2,071	(612)	906	1,723
Value of inventory change: livestock	445	(1,057)	(1,539)	(533)	3,177	1,548	1,499	(273)	485	1,684
Value of inventory change: crops	(143)	(241)	(54)	148	193	(291)	572	(339)	421	(a)
Total cash receipts and other income	28,950	28,602	30,745	30,424	42,327	28,718	30,757	28,333	25,822	22,110
less: Total production expenses	32,042	31,315	29,936	28,014	36,800	24,508	25,897	25,057	25,301	24,548
Realized net income	(3,092)	(2,713)	809	2,410	5,527	4,210	4,860	3,276	521	(2,438)
plus: Value of inventory change	302	(1,298)	(1,593)	(385)	3,370	1,257	2,071	(612)	906	1,723
Total net income including corporate farms	(2,790)	(4,011)	(784)	2,025	8,897	5,467	6,931	2,664	1,427	(715)
less: Net income of corporate farms	(829)	(1,048)	(234)	353	1,042	966	468	525	164	(496)
plus: Statistical adjustment		-								-
Total net farm proprietors' income	(1,961)	(2,963)	(550)	1,672	7,855	4,501	6,463	2,139	1,263	(219)
plus: Farm wages and perquisites	1,026	1,085	1,069	1,161	1,052	1,006	1,108	1,427	1,527	1,509
plus: Farm other labor income	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	54	52
Total farm labor and proprietors' income	(906)	(1,845)	562	2,880	8,954	5,549	7,618	3,615	2,844	1,342
Planning Area										
Total cash receipts from marketings ($000)	67,047	69,977	74,600	77,127	96,108	76,796	85,639	77,865	69,757	62,559
Cash receipts: livestock and products	62,540	66,087	70,164	73,389	91,147	72,133	80,681	74,015	65,195	57,750
Cash receipts: crops	4,507	3,890	4,436	3,738	4,961	4,663	4,958	3,850	4,562	4,809
Other income	9,035	11,119	13,473	10,247	9,948	12,093	12,782	12,698	12,727	13,601
Government payments	2,602	3,728	6,574	3,536	2,926	3,912	3,751	3,520	2,772	2,208
Imputed and miscellaneous income received	6,433	7,391	6,899	6,711	7,022	8,181	9,031	9,178	9,955	11,393
Total production expenses	75,945	78,253	76,574	75,808	90,852	73,196	79,397	80,527	81,227	80,807
Feed purchased	5,338	6,556	6,248	5,027	5,334	6,424	6,389	7,187	7,267	8,213
Livestock purchased	28,320	27,758	25,190	23,857	37,901	19,535	21,902	15,508	14,411	12,616

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Seed purchased	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)
Fertilizer & lime (incl. ag. chem. 78-fwd.)	827	857	865	775	786	711	799	1.030	1.059	1,164
Petroleum products purchased	2.760	2.670	2.671	3.271	3,171	2.829	2.791	3.154	3.107	3.455
Hired farm labor expenses	3.781	3.989	4.240	4.655	4.423	4.415	5.052	6.145	6.636	6.202
All other production expenses	34.631	36.103	37.049	37.934	38.941	39.038	42.193	47.191	48.455	48.839
Total value of inventory change	750	(5.537)	(5.732)	(707)	10.308	3.904	8.232	(2.974)	3.608	6.279
Value of inventory change: livestock	1.677	(3.836)	(5.188)	(1.510)	9.349	5.213	5.090	(1.023)	1.037	6.272
Value of inventory change: crops	(927)	(1,701)	(544)	803	959	(1.309)	3.142	(1.951)	2.571	(a)
Total cash receipts and other income	76.082	81.096	88.073	87.374	106.056	88.889	98.421	90.563	82.484	76.160
less: Total production expenses	75.945	78.253	76.574	75.808	90.652	73.198	79.397	80.527	81.227	80.807
Realized net income	137	2.843	11.499	11.566	15.204	15.691	19.024	10.036	(a)	(4.647)
plus: Value of inventory change	750	(5.537)	(5.732)	(707)	10.308	3.904	8.232	(2.974)	3.608	6.279
Total net income including corporate farms	887	(2.694)	5.767	10.859	25.512	19.596	27.256	7.062	4.865	1.632
less: Net income of corporate farms	(494)	(a)	660	1,411	2.387	2.534	1,464	(a)	(a)	(a)
plus: Statistical adjustment	-	-	-	-	-	-	-	-	-	-
Total net farm proprietors' income	1.381	(1.814)	5.107	9.448	23.125	17.061	25.792	5.395	4.014	1.679
plus: Farm wages and perquisites	2.612	2.832	2.856	3.163	2.932	2.849	3.138	4.035	4.328	4.270
plus: Farm other labor income	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)
Total farm labor and proprietors' income	4.081	1.116	8.095	12.759	26.203	20.039	29.076	9.582	8.510	6.113

Source: USDC, BEA, Regional Economic Measurement Division.

(a) Less than $50,000. Estimates are included in totals.

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Figure 3-7
Total Agricultural Cash Receipts
Crook County

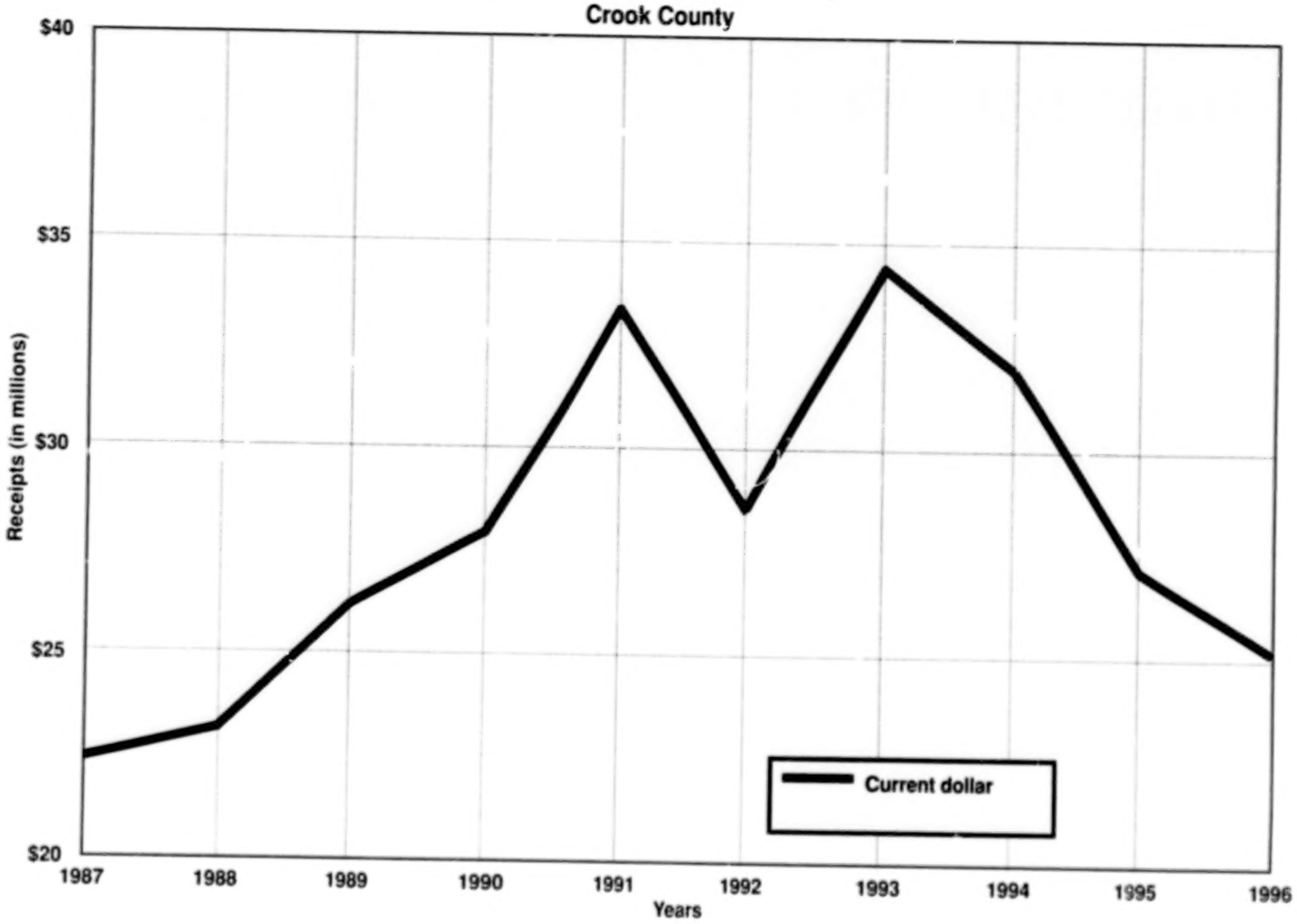


Figure 3-8
Total Agricultural Cash Receipts
Niobrara County

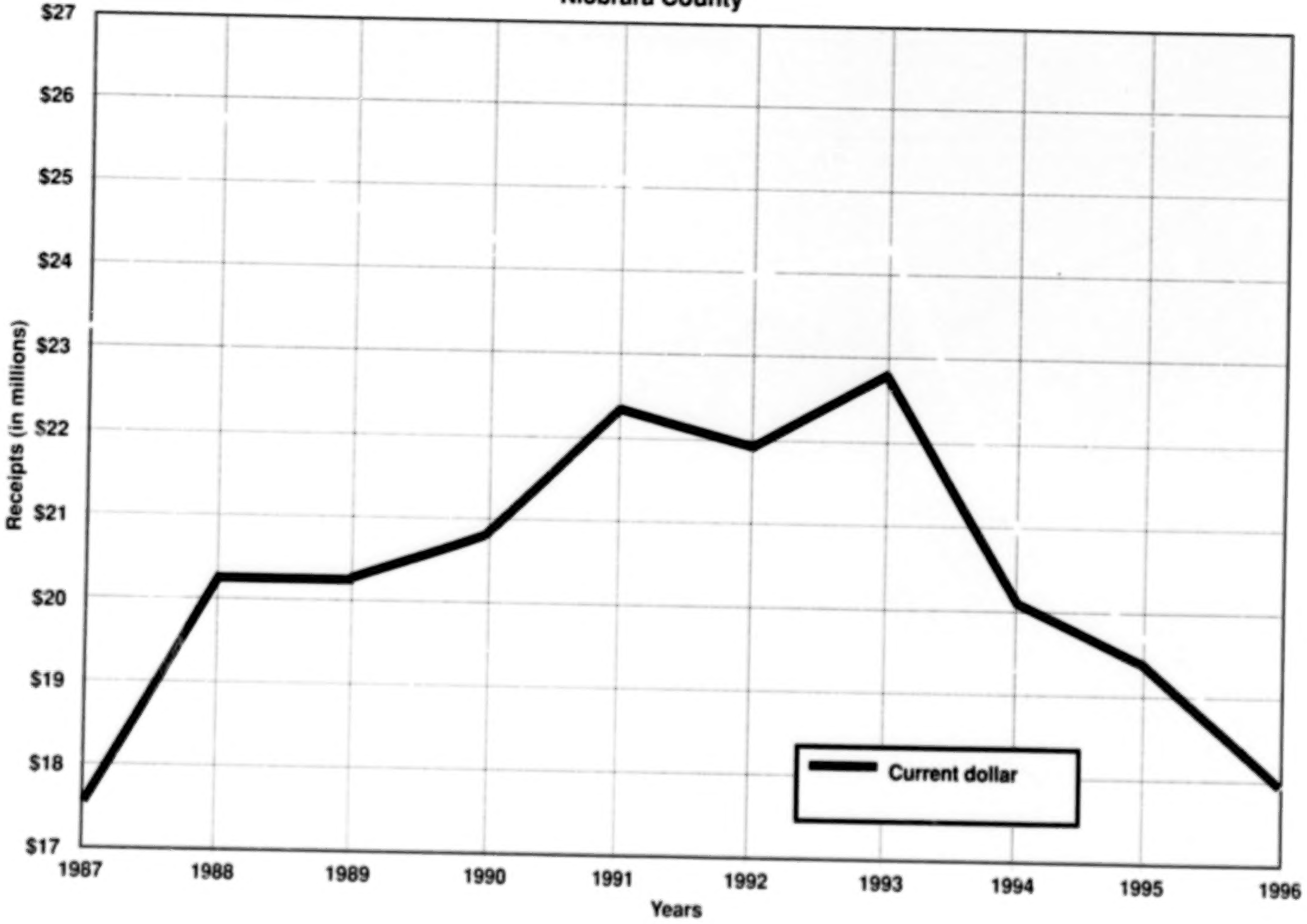


Figure 3-9
Total Agricultural Cash Receipts
Weston County

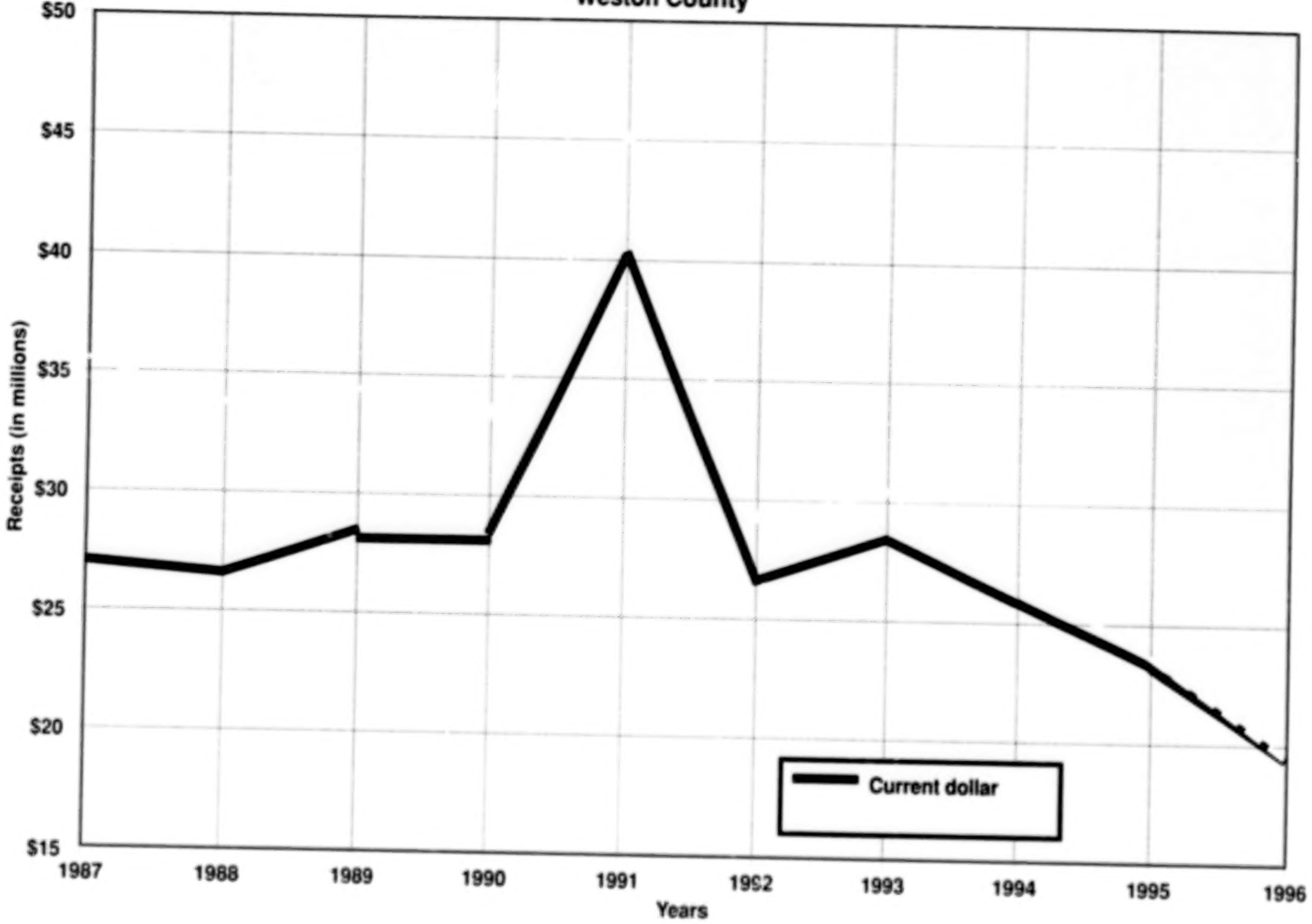
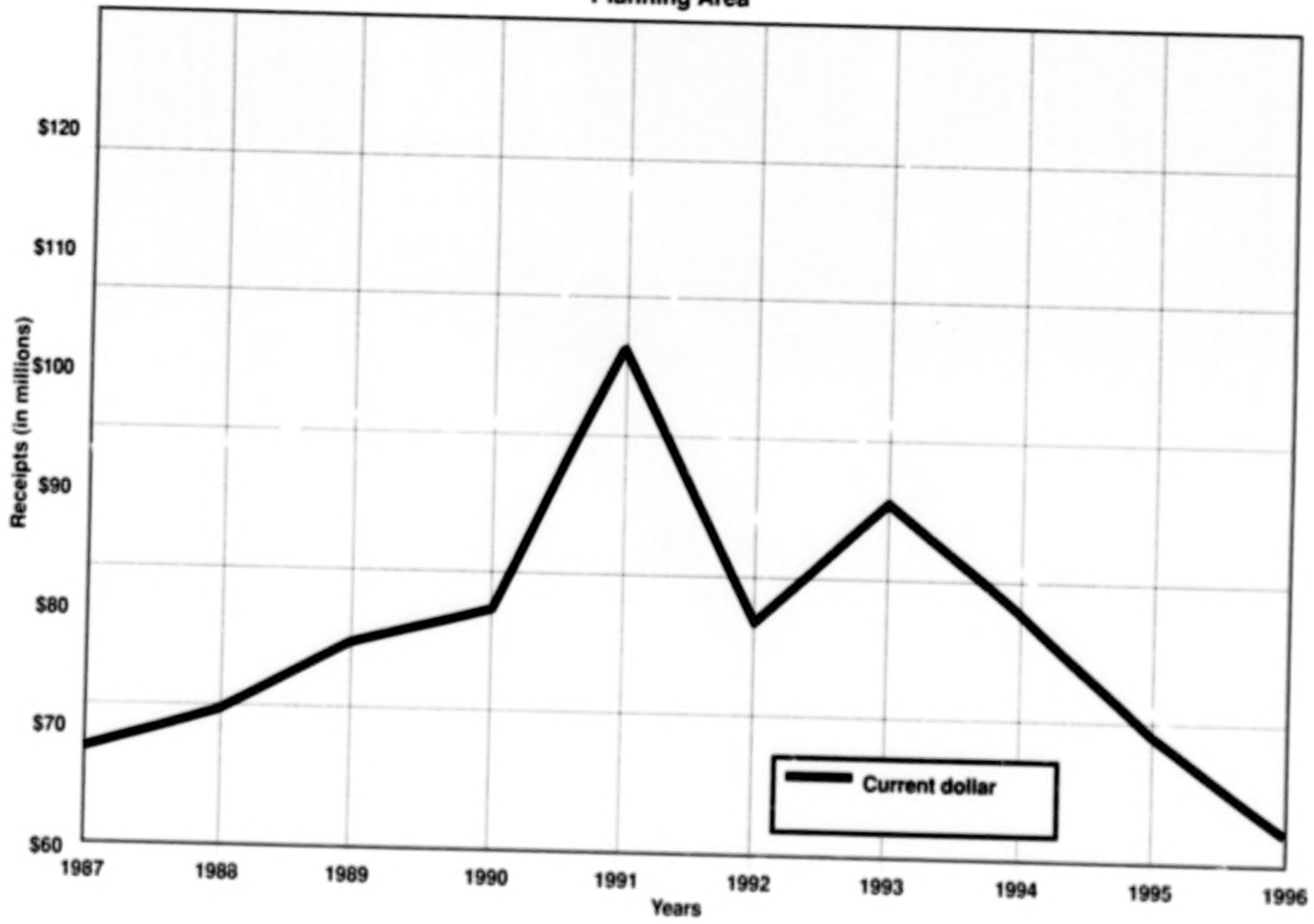


Figure 3-10
Total Agricultural Cash Receipts
Planning Area



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Wyoming farm employment fell by 14% from 1980 to 1990. From 1990 to 1996, it only fell another 1%. By contrast, the planning area's farm employment fell by 18% from 1980 to 1990 and then fell another 1.7% by 1996. Overall, Wyoming's farm employment fell by nearly 15% between 1980 and 1996. However, the planning area's employment fell by nearly 19.5% during that same time period.

Wyoming farm employment accounted for about 5.2% of the total state employment in 1980. By 1996 that number had declined to 4% of the states total. In the planning area, farm employment's share of the total employment is over three times what is found statewide. For example, in 1980 farm employment accounted for nearly 17% of the total planning area's employment. By 1996 that number had fallen to 12%, which is still three times the statewide proportion of farm employment. It is clear that even though the planning area's proportion of farm employment has declined from 1980 to 1996, farm employment remains an important component to the area's economy.

The sector generally showing the largest decline in employment between 1980 and 1996 is mining. Statewide, mining employment fell 53% over this period while the planning area's fell less than half that amount. While mining employment declined both statewide and in the planning area over this period, the period from 1990 to 1996 saw a 16.5% increase of mine employment in the planning area even though mine employment statewide fell by 13% during this time. The decline throughout the period from 1980 to 1996 was more pronounced on a statewide basis compared to the decline experienced in the planning area.

In 1980, Wyoming mining employment accounted for nearly 14% of the state's employment compared to 14.5% of the planning area's employment. By 1996, Wyoming mining employment had dropped to only about 5.9% of the state's total employment. This is compared to the planning area's mining employment, which accounted for nearly double that amount or 9.5% of the total employment in the planning area.

Personal Income

Table 3-12 depicts the personal income for 1980, 1990 and 1996. The source for data contained in this table is from the Regional Economic Information System (USDC, BEA 1969-1996). And they describe the table as follows:

> "Personal income is a measure of income received; therefore, estimates of State and local area personal income reflect the residence of the income recipients. The adjustment for residence is made to wages and salaries, other labor income, and personal contributions for social insurance, with minor exceptions, to place them on a place-of-residence (where-received) basis. The adjustment is necessary because these components of personal income are estimated from data that are reported by place of work (where earned). The estimates of proprietors' income, although presented on the table as part of place-of-work earnings, are largely by place of residence; no residence adjustment is made for this component. Net earnings by place of residence is calculated by subtracting personal contributions for social insurance from earnings by place of work and then adding the adjustment for residence, which is an estimate of the net inflow of the earnings of interarea commuters. The estimates of dividends, interest, and rent, and of transfer payments are prepared by place of residence only.
>
> Estimates of earnings by place of work are provided in CA05 at the two-digit Standard Industrial Classification (SIC) level. The principal source data for the wage and salary portion of REMD's earnings estimates are from the Bureau of Labor Statistics (BLS) ES-202 series. The ES-202 series provides monthly employment and quarterly wages for each county in four-digit SIC detail. REMD restricts its earnings estimates to the SIC Division ("one-digit") and two-digit levels and suppresses these estimates in many individual cases in order to preclude the disclosure of information about individual employers."

Between 1980 and 1990, total personal income (TPI) within the planning area increased 53.4% and it further increased by almost 26% between 1990 and 1996 (table 3- 12). At the state level, personal income increased 43.5% between 1980 and 1990 and further increased 32.8% between 1990 and 1996.

In 1980, mine earnings at the state level made up the largest nonfarm industrial sector, as minerals did within the planning area, accounting for 25.5% and 22.6%, of total earnings respectively . Government and government enterprises for the state and planning area followed at 15.8% and 15.3% respectively in 1980. One of the most significant differences between economic sectors at the state and planning area levels was in the farm sector, which contributed only about 2% to the state, but 9.3% to the planning area in 1980. By 1996, the farm sector's contribution to the state and planning area had declined to .9% and 3.7% respectively. Regardless of the decline, the planning area's farm sector remained comparatively more important to the planning area than it is to the state.

Government and government enterprises and services continued to be important contributors to earnings statewide between 1986 and 1996. By 1996 they had both overtaken mining at 23.3% and 19% compared to 14.8% for mining. In the planning area, mining remained the number two source of earnings at 15% behind government and government enterprises at 24.3% and ahead of services at 13.7% in 1996.

Per capita personal income for the state was $11,469 in 1980, with $9,752 for Crook County, $10,233 for Niobrara County, and $10,840 for Weston County (USDC, BEA 1969-1996). In 1990, per capita personal income had increased to $17,213 for the state and $17,491, $16,304, and $17,309 for Crook, Niobrara, and Weston counties, respectively (USDC, BEA 1969-1996). By 1996, this had increased further, with $21,587 for the state, and $21,060 for Crook, $19,539 for Niobrara, and $20,688 for Weston counties (USDC, BEA 969-1996). Bnd based on this information, the planning area's per capita personal income approximates that of the rest of the state from 1990 to 1996.

Property Values and Local Taxes

Assessed property values affect the level of tax revenues available for local governments. Tax computations are made using difference bases for different types of property. For example, prior to 1990 real property was based on 25% of 1967 replacement cost. Beginning January 1, 1990, it has been based on 9.5% of fair market value. On the other hand, mineral production has always been based on actual revenue from the sale of the product at the point it leaves the mine or well. The mill levy for the location is then applied to determine the tax due.

In the state's fiscal year of 1989, the total assessed property value of the planning area including real property, minerals, utilities, and personal property amounted to $174.3 million or 3% of the state total (WDEdu, 1990). This is a decline of 43% in total property value from fiscal year 1986 levels (WDEdu, 1987). The main reason for this fall was mineral production, which sustained a 53% drop in assessed valuation during this time frame, followed by a 30.6% decline in personal property values. Between 1981 and 1986, total property valuations increased 23.6%, led by mineral production and utilities valuation increases of nearly 30% and 30.6%, respectively (table 3-14). As a result of the decreased valuation, total taxes assessed by the counties in the planning area declined from $19.6 million in 1986 to $12.9 million in 1988, or 34.6% (WDRT 1986, 1988). Impacts to the individual counties varied but were significant in all cases. Crook County declined from $10.1 million to $6.5 million, or $3.6 million (35.6%). Weston County declined from $6.6 million to $4.1 million, or $2.5 million (37.9%). Niobrara County declined from $2.9 million to $2.3 million, or $.6 million (20.7%) (WDRT 1986, 1988).

TABLE 3-14
PROPERTY VALUATIONS ($000)

Year	Wyoming Total Valuation	Planning Area Real Property	Mineral Production	Utilisies	Personal Property	Total Valuation
1981	6,176,291	42,079	174,046	14,258	17,473	247,856
1986	7,830,715	41,422	225,827	18,624	20,502	306,375
1989	5,729,687	39,852	106,140	14,062	14,227	174,281

Source: WDEdu, 1981, 1987, and 1990.

In 1987, the average value of a farm (including buildings) in the planning area amounted to $468,354, or nearly 88% of the state average figure (USBC 1989). In contrast, in 1982 the average value per farm was $620,947, or almost 85% of the state average (USBC 1989). This indicates a 24.6% decline in value over the five-year period. In 1987, the county within the planning area with the highest value per farm (including buildings) was Weston County; the least was Crook County.

Payment in lieu of taxes (PILT) are payments made to the counties by the federal government to compensate for the nontax status of federal lands present in the county. PILT is determined by statute and cannot exceed a ceiling based on county population.

The values shown in table 3-15 represent the amount received per acre for PILT and what the acreage would have generated for taxes had it been in private ownership. Figures used are those actually received by the counties in 1990.

TABLE 3-15
COMPARISON OF PAYMENT IN LIEU OF TAXES (PILT) AND COUNTY TAX LEVY FOR AVERAGE AGRICULTURAL LAND

Tax per Acre	County	1980	1986	1989	1990
PILT/County Levy[1]	Crook	$.41/.20	$.31/.21	$.36/.22	$.21/.15
PILT/County Levy[1]	Niobrara	$.68/.36	$.72/.23	$.75/.25	$.75/.15
PILT/County Levy[1]	Weston	$.45/.22	$.37/.20	$.39/.21	$.10/.13

[1] PILT cannot exceed a statutory ceiling based on county populations. These amounts are reduced above to a per-acre value based on a representative public land figure for each county from the Wyoming Data Handbook (WDAFC 1989). County tax is based on production per acre. These are middle average range figures for livestock grazing lands.

SOURCE: Connally, G., J. Fassbender, and J. Hales 1993.

Lands, if in private ownership, are classified into one of many categories for tax purposes. Nearly all BLM-administered public land in Crook, Niobrara, and Weston counties is grazing land; therefore, the values used to represent grazing lands categorized is an "average" of the classifications available for lands used primarily for livestock grazing.

The counties, with the recent exception of Weston County, receive greater revenues from PILT for land in federal ownership than from property taxes if the land were in private ownership. Niobrara County receives the greatest benefit from this difference.

The figures in table 3-15 do not include income generated from the funds returned from public land grazing fees or the effect on the economy as the dollars from either the PILT or the taxes cycle through the economy. It also does not include the return to the state of 50% of royalties paid on federal minerals and a portion of receipts from federal timber sales.

Major Economic Bases Within the Planning Area

Agriculture

The most recent detailed agricultural data are for the years 1987 and 1982. In 1987, 87% of the planning area was being used as farm lands (including grazing lands), up nearly 1% from 1982 (USBC 1989; WDAFC 1989). During this period farm numbers increased 5.4%; however, the average size of farms decreased 3.6% or 184 acres per farm. This is evidenced mainly by the nearly 22% increase of small operations (1 to 499 acres) throughout the planning area. Medium-sized enterprises (500 to 999 acres) decreased 5% during the period, while larger operations (1,000 acres or more) showed a 2% increase (USBC 1989).

Farming as a principle occupation also declined slightly (2.4%) during this period, while those engaged in other occupations increased 32% (USBC 1989). State trends appeared to mirror this direction, with a 6.4% increase noted for those engaged in other occupations between 1982 and 1987, while those engaged in agriculture increased only 2.6% (USBC 1989). Agriculture employed 1,206 individuals (12%) in the planning area in 1996 (USDC, BEA 1969-1996).

BLM-administered grazing lands make up about 7% of all pastureland and woodland grazed in the planning area, and they supply 48,818 AUMs for grazing (USDC, BEA 1989). Livestock operators using BLM-administered lands make up about 30.4% of total operators in the planning area and about 10% of total Wyoming operators with Taylor grazing leases (USBC 1989).

Domestic livestock grazing on BLM-administered public lands make up 3% of the total cattle and calves, 1.5% of all sheep, and nearly 4% of all horses within the planning area (USBC 1989).

Livestock graze on BLM-administered public lands in the planning area an average of five months per year. These lands bring in $65,904 in revenues to the federal government based on $1.35 (at the time of this writing) per AUM cost figure.

Minerals

Mineral development and production employed 959 individuals (approximately 9.5%) in the planning area in 1996 (USDC, BEA 1969-1996). This is primarily due to oil and gas but includes other mineral producers.

Petroleum production is a significant industrial activity in the planning area. In 1986, the area produced 7.8 million barrels of oil representing 7% of the total state production (WDC 1991). About 40% of this oil (3.1 million barrels) came from lands with jurisdictional production (federal minerals/federal units/federal interest) (WOGCC 1986). This total production had an assessed valuation of $100.8 million with BLM interests responsible for $40.3 million of this total (WOGCC 1986; WDC 1991). In 1989, oil production totaled nearly 6.9 million barrels with about 54% coming from lands with some jurisdictional production (WOGCC 1989). This oil had an assessed valuation of $113.0 million with BLM interests responsible for an estimated $64.9 million of this total (WOGCC 1989; WDC 1990). However significant, production of oil continues on a downward slide in the area, signaling an almost certain decline in the importance of petroleum within the region.

Gas production in 1986 made up nearly 0.6% of the state's total production (WOGCC 1986; WDC 1991). This gas had an assessed valuation of $4.4 million (WOGCC 1986; WDC 1990). In 1989, production was even less, making up 0.4% of the state's total production, with about 67% coming off lands that have some federal investment. This amounts to an assessed valuation of $3.8 million with an estimated $2.5 million coming from BLM interests (WOGCC 1989; WDC 1990).

Bentonite is produced in the area with some 23,343 tons extracted from leased public lands in fiscal year 1990. In 1986, the planning area produced 71% of the state's total production, with an assessed valuation of $4.8 million (WDC 1990). In 1987, this production was estimated to be 75.7% of the state total, with an assessed valuation of $6.6 million (WDC 1990). In 1989, production slipped to 47% of the state's total, but with a higher assessed valuation of $5.5 million due to higher per-unit valuations (WOSIM 1990; WDC 1991). Public lands accounted for about 1% of the total bentonite production in the planning area, and this production had an assessed valuation of about $55,497. Long-range prospects for bentonite production appear good; however, its fortunes are basically tied to the oil and gas industry (WDC 1991).

Limestone is also produced in the planning area. In 1986, 45,039 tons were removed from public lands; in 1988, 62,000 tons were removed; in 1989, 26,648 tons were removed; and in 1990, 130,376 tons were removed. The appraised value of this production is $.25 per ton, making 1990 production values at $32,594 from the public lands, insignificant to the planning area's economy. About 13 people are employed at various quarries in the planning area mining limestone from all sources (WOSIM 1990). Also, some sand, gravel, and shale are produced, but much of the material requirements are being produced from sources other than BLM (see the "Minerals" section).

Forestry

There is an estimated 41.5 mmbf of timber cut in the planning area each year; however, only about 500 mbf is cut from BLM-administered public lands. This volume represents 1.4% of the estimated total levels taken from the planning unit, and has a value of approximately $135,222 based on $225.37 per mbf (log scale price) (Adams 1989). About 5.9 direct and indirect jobs could be involved from this volume of timber produced and marketed. This would contribute an estimated $270,174 in direct and indirect revenues to the economy based on a 1.999 business multiplier supplied by Colorado State University. This timber would probably be processed in line with other timber with no change in work force except under conditions of very high demand, tight work schedules, and a minimum work force on line.

There are about 1,500 poles and posts plus about 4.75 mmbf of firewood harvested from the planning area each year. Posts, poles, and firewood harvested off public lands are of small quantities and are on a demand basis.

Recreation

The planning area contains several recreational opportunities, attracting people from both inside and outside the region. In the north, Sand Creek, Cook Lake, and Keyhole State Park provide fishing throughout much of the year. The latter two areas are also popular boating spots. Camping facilities are available at Keyhole State Park, Cook Lake, and Devils Tower National Monument. In 1986, Keyhole State Park recorded 584,679 visitor days; in 1988, this number had fallen to 494,624 representing a value of $14.9 million. This figure is based on the University of Wyoming averaged variable costs of $30.11 per visitor day expenditures for both resident and nonresident tourists. At Devils Tower National Monument, in 1986, some 298,148 visitations were recorded, increasing to 347,451 in 1988.

Further south, LAK Lake and MW Reservoir are favorite fishing spots for sportsmen. In 1989, hunting and fishing in the planning area resulted in the creation of nearly $11 million in income, most of which remained in Wyoming (table 3-16). The public lands administered by the BLM provided an estimated 3% of the total (WGFD 1990).

Additional recreational opportunities such as sightseeing and self-guided tours to many of the natural sights of the area including the Bear Lodge Mountains and the Thunder Basin National Grasslands are available. The area is rich in history, with historic sites such as old pioneer ranches, buildings of native stone, houses, cabins, and schools available to the public.

Environmental Justice

Environmental justice issues are concerned with actions that unequally impact a given segment of society either as a result of physical location, perception, design, or noise, among others. On February 11, 1994, Executive Order 12898, "Federal Action to Address Environmental Justice in Minority Populations and Low-Income Populations" was published in the *Federal Register* (59 FR 7629). The executive order requires federal agencies to identify and address disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations (defined as those living below the poverty level). The executive order makes clear that its provisions apply fully to American Indian populations and Indian tribes, specifically to affects on tribal lands, treaty rights, trust responsibilities, and the health and environment of Indian communities. Environmental justice concerns are usually directly associated with impacts on the natural and physical environment, but these impacts are likely to be interrelated to social and economic impacts as well.

Native American access to cultural and religious sites may fall under the umbrella of environmental justice concerns if the sites are on tribal lands or treaty right has granted access to a specific location. With regard to environmental justice issues affecting Native American tribes or groups, the planning area contains no tribal lands or Indian communities, and no treaty rights or Indian trust resources are known to exist for this area.

SOIL RESOURCES

Soil development is influenced by five major factors: climate, living organisms, parent material, topography, and time. In the planning area these factors have combined to produce soils with many different characteristics. For interpretive purposes, please refer to the Wyoming General Soil Map (Univ. of WY 1977). Due to the general nature of this map, it is intended to provide a broad perspective for planning purposes rather than decisions on the use of specific tracts. Table 3-17 is a list of general soil units in the planning area taken from the Wyoming General Soil Map.

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TABLE 3-16
RECREATION-RELATED INCOME UNDER EXISTING MANAGEMENT IN 1989

Recreation Activity	Total Visitor Days: Wyoming[d]	Total Visitor Days: Crook	Total Visitor Days: Niobrara	Total Visitor Days: Weston	Total Planning Area Visitor Days	Visitor Days on BLM Lands	Resulting Income: Expended per Day[a]	Resulting Income: Total Planning Area Expenditures	Total BLM
Fishing	3,107,036	68,110	6,645	16,560	91,315	—	$ 54.83	$ 5,006,801	$ —
Elk hunting	301,650	1,402	62	156	1,620	93	70.90	114,858	6,594
Mule deer hunting	354,967	16,355	4,158	5,558	26,071	1,494	64.43	1,679,755	96,258
White-tail deer hunting	72,171	30,796	1,107	2,233	34,136	1,956	64.43	2,199,382	126,025
Antelope hunting	117,916	4,783	4,216	3,070	12,069	692	96.53	1,165,021	66,799
Upland bird hunting	125,911	2,019[b]	—	—	2,019	—	59.86	120,857	—
Turkey hunting	15,709	10,366[b]	—	—	10,366	612	45.39	470,513	27,779
Geese hunting	28,344	646[b]	—	—	646	—	59.86	38,670	—
Duck hunting	32,599	1,456[b]	—	—	1,456	—	59.86	87,156	—
Small game	51,061	2,010[b]	—	—	2,010	—	49.84	100,178	—
Non-cunsumptive use	—	—	—	—	—	500	30.00[c]	—	15,000
Total	**4,207,364**	**137,943**	**16,188**	**27,577**	**181,708**	**5,347**		**10,983,191**	**338,455**

[a] WGFD 1990 as amended.

[b] Not available by county; combined figure.

[c] Estimated value.

[d] WGFD 1990; fiscal year 1990 data (calendar 1989).

TABLE 3-17
GENERAL SOIL UNITS

Soil Unit	Percentage of Area	Characteristics
SOILS OF THE MOUNTAINS AND MOUNTAIN VALLEYS		
MF-1	7.3	Eutroboralfs-Haploborolls Association. Dominantly dark colored soils developing in residuum and transported materials from igneous and sedimentary bedrocks.
SOILS OF THE EASTERN WYOMING PLAINS (soils formed from transported materials)		
P-3	5.3	Torrifluvents-Haplargids-Torriorthents Association. Nearly level to gently sloping soils in alluvium on floodplains and terraces.
SOILS OF THE EASTERN WYOMING PLAINS (soils formed from residual materials on steep uplands)		
P-4	2.6	Torriorthents, shallow Association. Shallow and very deep soils developing in residuum and alluvium from interbedded sandstone and shales.
P-5	24.9	Torriorthents-Haplargids Association. Rolling to steep soils are developing in residuum and alluvium from interbedded sandstone and shales.
P-6	5.4	Torriorthents-Torriorthents, shallow Association. Rolling to steep soils are developing in residuum from siltstones.
P-9	0.4	Argiustolls Association. Located in the Hartville uplift area. Sloping to steep soils developing in residuum from metasedimentary bedrock.
P-10	6.0	Torriorthents, fine Association. Gently rolling soils developing in residuum from shale.
P-11	10.5	Torriorthents-Argiustolls Association. Located adjacent to the Black Hills. These gently sloping to steep soils are developing in residuum from interbedded shales and sandstone.
P-12	4.7	Torriorthents-Argiustolls-Haplustolls Association. Adjacent to the Black Hills. Gently sloping soils are developing in residuum and alluvium from siltstones and limestones.
P-13	2.8	Haplargids-Paleargids-Torriorthents Association. Located in the central part of the Powder River Basin. Rolling soils are developing in residuum and alluvium from interbedded sandstones and shales.
P-16	7.5	Argiustolls-Haplustolls Association. Gently rolling and rolling soils developing in residuum from fine-grained sandstone.
P-21	22.7	Torriorthents, fine-Torrifluvents Association. Gently to moderately sloping soils are developing in alluvium and residuum from shales.

SOURCE: Univ. of WY 1977.

Specific soil information for Crook County is available in the "Soil Survey of Crook County, Wyoming" (USDA, NRCS 1983). A similar detailed survey has been completed for Weston County, and it is published in "Soil Survey of Weston County, Wyoming" (USDA, NRCS 1990). The NRCS has completed, but not yet published, a detailed survey of Niobrara County. These more detailed surveys should be used when implementing land management practices.

All of the publications cited are available for review at the Casper Field Office. Copies may also be available at local libraries, NRCS offices, or the University of Wyoming.

Soils in the study area can be broken into two broad delineations, soils of the mountains and mountain valleys, and soils of the plains.

Soils of the Mountains and Mountain Valleys

This association is located in the Black Hills. These generally dark-colored soils are developed in residuum and transported materials from igneous and sedimentary bedrock. The soils formed in a cool (frigid) climate and are usually moist in some parts during the summer. This mapping unit is rolling to steep, mountainous landscape with narrow valleys and is principally forest covered with interspersed areas of grass-shrub lands. Average annual precipitation (AAP) is 14 to 24 inches; mean annual soil temperature (MAST) is less than 47_ and, mean summer soil temperature (MSST) is greater than 59_F.

Soils of the Eastern Wyoming Plains

The plains soils can be divided into three broad groups: soils formed from transported materials, soils formed from residual materials on steep uplands, and soils on nearly level to rolling upland plains, terraces, and fans. Soils formed in transported materials are associated with the major drainages in northeastern Wyoming. The soils are nearly level to gently sloping (zero to six percent slopes) and are developing in alluvium on floodplains and terraces. The soils are generally deep to very deep and are well drained.

Soils formed from residual materials on steep uplands are forming in residuum and alluvium from sandstones, shales, siltstones, and metasedimentary bedrock. These rolling to steep (5% to 40% slopes) soils are generally medium textured and range from shallow to deep. Most of these upland soils are well drained.

On the nearly level to rolling upland plains, terraces and fans, soils are developing in residuum and alluvium derived from shales, sandstone, siltstone, and limestone bedrock. Soil depths range from shallow to very deep and are generally grass-shrub covered.

AAP for the plains soils is 12 to 16 inches, MAST is 47°F to 59°F, and MSST is more than 59°F.

VEGETATION RESOURCES

Information concerning vegetation resources was obtained from the 1957 through 1959 Little Missouri River Basin (MRB) studies (USDI, BLM 1957). This survey covers the better-blocked public lands in the planning area. Table 3-18 provides a description of the vegetation types and the acreages in the area. Because of the way the MRB studies were compiled, the vegetation types are broken out by the percent of the total MRB study in Crook and Weston counties and the total acres in the study in Niobrara County. Isolated tracts are not included.

TABLE 3-18
VEGETATION TYPES AND ACREAGES

Crook County		Weston County		Niobrara County	
Vegetation Type	Acres	Percentage of MRB Study	Acres	Percentage of MRB Study	Acres Only
Big sage	113,000	67	110,100	29	93,985
Grassland	25,300	15	199,600	48	16,900
Conifer	12,600	8	51,200	13	360
Salthrush	9,400	6	4,200	1	[a]
Meadow	5,600	3	[a]	[a]	[a]
Waste	1,300	1	6,100	2	[a]
Browse	500	trace	6,400	2	600
Agricultural, cropland, or cultivated	300	trace	15,100	4	[a]
Greasewood	[a]	[a]	9,200	1	[a]

[a] No data available.

The natural vegetative cover in the planning area is predominately the shortgrass or mixed prairie. The principal grass species are needle-and-thread grass, western wheatgrass, buffalograss, Junegrass, Sandberg bluegrass, Kentucky bluegrass, three awns, little bluestem, and blue grama.

For the Newcastle area as a whole, blue grama is probably the most important species for livestock forage. Cattle, horses, and sheep make use of blue grama any season of the year. The proper use factor for blue grama for cattle and horses is usually in the neighborhood of 30% to 50%. In pure stands, blue grama will usually yield from 100 to 125 pounds of forage per acre, air dry weight. It grows from 2 to 6 inches high and may be considered as a key species of the shortgrass ranges.

Much of the range in the area has a sagebrush aspect in which big sage appears to be the dominant shrub vegetation often comprising one-fourth of the vegetative composition. Other shrubs associated with big sage are silver sagebrush, rabbitbrushes, plains pricklypear, wild roses, black greasewood, and sumac. Along the tributaries and main streams are found willows, cottonwoods, green ash, nuttall sarvice berry, chokecherry, and wildplum. Rocky Mountain juniper, ponderosa pine, and creeping juniper are found along some of the higher ridges and slopes in the north, south-central, and eastern portions of the Newcastle area.

Most of this native forage and vegetation is produced on poor soils and topographically rolling to rough terrain of the semi-arid plains, and is used by a vigorous livestock industry and abundant wildlife. For a complete list of plant species and their ecological characteristics see appendix J.

Dorn (1977) quotes *USDA Forest Service Research Paper RM-71, June 1971* (p. 323 325), by describing the following important vegetative types of the Black Hills.

Grassland Type

> Grassland vegetation in the Black hills can be subdivided into two major divisions based on effective moisture. The drier parts of the southern Hills support a bunchgrass vegetation dominated by *Andropogon scoparius*. This type also occurs on exposed south- and west-facing slopes and balds in the Central Area, where it intergrades into the *Pinus ponderosa Andropogon scoparius* subtype previously mentioned. Additional component species are similar in these two vegetation types.
>
> The mid-grasses, *Agropyron smithii* and *Stipa* spp., dominate extensive grasslands in the southern Black Hills. Other important species in this grassland are *Artemisia figida* and *Bouteloua* spp. Short-grass prairie dominated by *Bouteloua gracilis* and *Buchloe dactyloides* occurs intermixed with the *Agropyron-Stipa* mid-grass type, possibly as a result of overgrazing. *Opuntia* spp. are also common here, as are *Artemisia frigida* and *Bromus japonicus*.

Grassland types are the most abundant in NRA, accounting for about half of all vegetative types.

Big Sagebrush Shrubland

> An *Artemisia tridentata* shrubland type occurs on lowlands to the west and south of the Black Hills. Several other species of *Artemisia* are also present: *A. cana*, *A. filifolia*, and *A. frigida* are the most common of these. *Chrysothamnus nauseous* is abundant on eroded sites.

Big sagebrush shrublands are the second most abundant vegetative type in the planning unit accounting for about one-fourth of the vegetative types.

Juniper Woodland

> The *Juniperus scopulorum* woodland type is best developed in the southern Black Hills and on river breaks in the northern Great Plains to the east of the Black Hills. *Pinus ponderosa* is often an overstory codominate. *Ribes* spp. and *Rhus trilobata* are important shrubs. The herb layer has distinct prairie affinities. *Stipa* spp., *Bouteloua gracilis*, and *B. curtipendula* are common.
>
> True shrubland vegetation in the Black Hills is limited, although some tree species (*Quercus macrocarpa*, *Populus tremuloides*) also grow as shrubs, especially in old forest burns. However, shrubland dominated by *Cercocarpus montanus* is present along the western edge of the Black Hills, and extends to the south and east. At lower elevations, *Cercocarpus montanus* has an open distribution and individual shrubs are seldom more than 4 feet tall. At higher elevations, the shrubs exceed 10 feet in height and form very dense thickets. Associated shrub species are *Ribes* spp., *Rhus trilobata*, and *Juniperus scopulorum*. The herbaceous stratum is dominated by prairie species: *Bouteloua* spp., *Calamovilfa longifolia*, and *Andropogon gerardii* are the most common species.

Ponderosa Pine Forest

> *Pinus ponderosa Cercocarpus montanus* occurs on the western edge of the Black Hills. [It] intergrades into *Cercocarpus montanus* shrubland at

lower elevations. [It is] confined to calcareous parent materials. *Ribes* spp., *Rhus trilobata*, and *Andropogon* spp. are also present.

Pinus ponderosa/Juniperus communis/Berberis repens [is] the dominant forest type at higher elevations (+6,000 feet) on the northwestern Limestone Plateau. *Sheperdia canadensis*, *Bromus pumpellianus*, *Elymus glauca*, and *Trifolium* spp. are the more common associates.

Poisonous and Noxious Plants

Locoweed, silver lupine or wild bean, and larkspur are the principal poisonous plants in the planning area. Locoweed (crazyweed) is attractive spring forage but capable of causing loco disease in horses, cattle, sheep, and goats. While generally not palatable, a lack of good forage can force livestock to eat them. Relatively large amounts of the plants must be eaten to be dangerous, but this is possible because once animals start eating the plants, a craving develops for more. The entire plant is poisonous, either green or dry. Death is slow in all livestock, with symptoms in early stages of poisoning most dramatic in horses. Horses seem to be crazy (loco), spooking easily, and running into objects as if their vision is faulty. Depression, trembling, and paralysis are common to all livestock. Final stages are characterized by inability to eat or drink and lack of coordination.

Silver lupine and several other species of lupinus are especially poisonous. Most cases of poisoning result from eating pods with seeds. The pods alone, and sometimes the leaves, may also cause poisoning. Most losses from lupinus occur from sheep in the late summer and autumn. Sometimes an early snowfall may cover most of the shorter vegetation and leave the lupine pods projecting above the snow where they are easily nibbled by sheep, frequently with fatal results to large numbers. It is believed that more sheep are poisoned in Wyoming by silver lupine than by any other plant. Cattle and horses are also poisoned at times. Poisoned sheep show signs of nervousness and labored breathing, have convulsions, and frequently froth at the mouth.

As a group, larkspurs are second only to the locoweeds in causing livestock losses in the western United States. Plains larkspur is one of these species known to be extremely poisonous to cattle. A 1,000-pound animal may die from larkspur poisoning within an hour after consuming 5 pounds of young larkspur. Poisoning symptoms for cattle include staggering, nausea, excessive salivation, frequent swallowing, quivering, bloating, and paralysis of respiratory centers. Sheep and horses are not extremely susceptible to larkspur poisoning and in most instances can safely graze larkspur-infested ranges. In fact, intensive use of larkspur-infested ranges by sheep has been recommended to reduce abundance of the plant, thereby decreasing the danger for cattle. Toxicity decreases with plant maturity except for seeds which remain poisonous. Chemical sprays and grubbing are effective means of control.

Cockleburs may cause problems to sheep in the area. The burs attach to the sheeps' wool causing irritation to their heads and faces. Burs are also responsible for a lower grade of wool.

Leafy spurge has become a serious noxious weed in the northern portion of the planning area. It grows on good cultivated lands and shallow rocky soils, spreading rapidly over range lands, where it becomes established and crowds out practically all other vegetation. Leafy spurge is a poor forage, and some sheep deaths have been attributed to it. Appendix K contains additional information on poisonous plants.

Weed Control

Weed control in the planning is accomplished using herbicides. Selective control is accomplished using insects. Grazing on noxious weeds by sheep and goats is also being studied. The control is variable, but usually the weeds reappear within two years. Target species are leafy spurge and Canada and musk thistle. Ninety-five percent of the budget is spent controlling leafy spurge. Between $20,000 and $22,000 was spent annually over the last five years. A summary of weed control for each county in the planning area follows.

Crook County has the largest weed problem in the resource area. Leafy spurge has become a severe economic problem in the Devils Tower area. About 2,000 acres of BLM administered surface are affected. Leafy spurge continues to spread in spite of the combined efforts of BLM, APHIS, the University of Wyoming, and the county weed and pest district. Between 95% and 100% of the weed budget is spent in Crook County.

Insect species were released on leafy spurge in 1991. This is a new biological control program which is showing good results in other states and Canada. Ranchers are also encouraged to use sheep or goats to control leafy spurge through grazing. The goal is to achieve control of weedy species, primarily leafy spurge, and reduce the use of herbicides.

Weston County sprays small acreages of BLM-administered public lands for leafy spurge, white top, and thistle. The weeds are in scattered tracts totaling less than 15 acres. Approximately $800 is spent annually on this program.

Niobrara County sprayed one tract of Canada thistle in the last five years at a cost of $6,180.

Rangeland

This is defined as land where the potential natural vegetation is predominantly grasses, grasslike plants, forbs or shrubs, and where natural vegetation was an important influence is its pristine state.

Herbaceous Rangeland

This category encompasses lands dominated by occurring grasses and forbs as well as those areas of actual rangeland which have been modified to include grasses and forbs as their principal cover, when the land is managed for rangeland purposes and not managed using practices typical of pastureland. It includes the tallgrass (or true prairie), shortgrass, bunchgrass or palouse grass and desert grass regions.

Shrub and Brush Rangeland

The shrub and brush rangeland is found in the semi-arid regions characterized by such vegetative types with woody stems as big sagebrush, shadscale, greasewood, and rabbitbrush.

Mixed Rangeland

When more than one-third intermixture of either herbaceous or shrub and brush rangeland species occurs in a specific area, it is classified as mixed rangeland. Where the intermixture land use or uses totals less than one-third of the specific area, the category appropriate to the dominate type of rangeland is applied. Mixtures of herbaceous and shrub plants are not considered rangeland.

Forestland

Forestlands are lands occupied at least 10% by forest trees of any size or lands that formerly had such tree cover and are not currently developed for nonforest use. Pinyon pine and juniper are considered forest trees.

Deciduous Forestland

Deciduous forestland includes all forested areas having a predominance of trees that lose their leaves at the end of the frost-free season or at the beginning of a dry season (cottonwood).

Conifer Forestland

Conifer forestland includes all forested areas in which the trees are predominantly those which remain green throughout the year (pine).

Wetland

Wetlands are those areas where the water table is at, near, or above the land surface for a significant part of most years.

Nonforested Wetland

These wetlands include brackish, saltmarshes, and nonvegetated flats, and also freshwater meadows, wet prairies, and open bogs.

Rare Plants

In 1989, The Nature Conservancy began an inventory of threatened, endangered, candidate, rare, or sensitive plant species on public land in the planning area. This was the first attempt at an inventory of such species or unique communities in the area. It was originally designed to be a multiphase evaluation of all public lands in the planning area that would include literature and herbarium searches, field surveys, and recommendations concerning management of species of concern and possible threats or impacts to these species resulting from management actions of other programs. Due to budgetary restraints this inventory was not continued in 1990. Work was completed in 1991, and additional information is now available.

Currently only three species of plants have been proposed for any kind of designation in the planning area and are listed in table 3-19. Both general floristic and species-specific surveys for target species will be continued to increase knowledge of the occurrence of these species and to implement management decisions that may affect these species.

TABLE 3-19
DRAFT BLM SPECIAL STATUS PLANT SPECIES

Scientific Name/Common Name	FED Status*	BLM Status	TNC Status	County
Spiranthes diluvialis Ute Ladies'-Tresses	FT	S	G2/S1	Niobrara
Lesquerella arenosa var. *argillosa* Sidesaddle Bladderpod	—	S	G5T3/S1	Niobrara
Parthenium alpinum Alpine fever-few	—	W	G3/S3	Niobrara

*FT = Federally threatened; S = BLM sensitive; W = BLM "watch" list

Where sensitive species occur on public land, BLM will strive to use conservation practices to keep them and their habitats from decreasing and keep them from being designated as candidate or T&E species.

The goal of this approach is to try to sufficiently protect these sensitive species so that it will be unnecessary for them to be listed as either candidate species or as T&E species.

It is believed that it would be of mutual benefit to all parties within the Newcastle area if listing could be avoided due to insufficient protective measures.

VISUAL RESOURCES

Visual resource classification inventories have not been completed in the planning area. Map 3-20 shows the proposed visual resources classifications for the area. Each VRM class has an objective which prescribes the level of acceptable change in the landscape. These objectives are as follows:

VRM Class I: This class applies to areas where the objective is to maintain a landscape setting that appears unaltered by man (0 acres surface; 0 acres split estate).

VRM Class II: This class applies to areas where the objective is to design proposed alterations so as to retain the existing character of the landscape (5,760 acres surface; 4,240 acres split estate).

VRM Class III: This class applies to areas where the objective is to design proposed alterations so as to partially retain the existing character of the landscape (284,860 acres surface; 1,404,828 acres split estate).

VRM Class IV: This class applies to areas where the objective is to provide for management activities which require major modification of the existing character of the landscape (320 acres surface; 0 acres split estate).

VRM Class V: This class applies to areas where the natural character has been drastically altered, and the area requires rehabilitation to upgrade it to one of the above classifications (0 acres surface; 0 acres split estate).

The area surrounding Devils Tower National Monument in Crook County was proposed for Class I designation (400 acres of public land surface; 3,080 acres of federal mineral estate). We have proposed to change this area to a Class II designation. The change was made because it was brought to our attention that VRM Class I designations were generally reserved for established wilderness areas or extremely sensitive areas where the viewshed was in imminent danger of being adversely modified. We determined that this was not the case in the Devils Tower National Monument area. The safeguards provided by the Class II designation would be adequate to protect the visual character of the monument as viewed from the monument or the surrounding public lands. This change removed 400 acres of BLM-administered public surface and 3,080 acres of split estate from the Class I designation and added it to the Class II designation.

Another area, along the Wyoming-South Dakota state line in Weston County, is proposed for Class II designation. This is an area of steep slopes on the western side of the Black Hills with jagged rock outcrops and heavily timbered slopes that can be viewed from U.S. Highway 85, U.S. Highway 16, county, and local roads in the area. This proposed designation includes approximately 5,360 acres of public surface and about 1,160 acres of federal mineral estate.

Class IV designation would be established for the rock quarry site in T. 44 N., R. 60 W., section 8 (320 acres). No areas are classified in Class V. The remainder of the resource area would be designated as Class III (284,860 acres public land surface; 1,404,828 acres split estate) until such time as inventories are complete and designations other than these are recommended.

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WATER RESOURCES

Groundwater

Since perennial supplies of surface water are scarce in the area, the primary source of water for domestic, agricultural (livestock), and industrial use is groundwater produced from wells. Water is available from several aquifers ranging from recent alluvial deposits to the Mississippian-aged Madison Limestone.

Alluvium

Alluvium aquifers are locally important throughout the planning area for livestock and irrigation use. Logically it is more important in the larger river valleys such as the Belle Fourche, Cheyenne, and Little Missouri. In the larger valleys, quantities are suitable for irrigation; however, quality may limit usefulness.

Arikaree

In parts of Niobrara County, the Arikaree Formation yields large quantities (up to 1,000 gallons per minute (gpm) or more) of water suitable for practically any use. However, use of the Arikaree in parts of Wyoming and Nebraska has often exceeded the estimated 0.33 inches of annual recharge from surface infiltration resulting in groundwater "mining." Because of this, additional uses of the water may be limited in the future.

White River

Where it is present in Niobrara County, the White River Formation has some of the best, consistently good-quality water in the area. Quantity is the only factor which limits its use to primarily domestic and livestock. Recharge is by exposed outcrops and surface infiltration.

Fort Union/Lance

The Fort Union and Lance formations are the primary source of domestic and stock wells. Total dissolved solids (TDS) range from less than 1,000 milligrams per liter (mg/l) to over 3,000 mg/l. The water is characterized as a calcium sulfate/sodium sulfate type. In most wells the TDS concentrations exceed the recommended level for a drinking water supply; however, it is often used as such.

Fox Hills

The Fox Hills Formation, with artesian pressure, is a commonly used aquifer for stock wells and a few domestic wells.

Newcastle Sandstone

The Newcastle Sandstone is a locally significant aquifer where fairly large quantities of good quality water are produced. This aquifer supplies a few stock and domestic wells near the area of the outcrop along the flank of the Black Hills.

Lower Cretaceous and Upper Jurassic Aquifers

This group of aquifers include the Cloverly, Fall River, Inyan Kara, Lakota, Morrison, and Sundance formations. These formations are locally important sources of stock water where they are shallow enough to be economically developed (for example, near outcrops). Except for the Hulett Sandstone member of the Sundance Formation, the yields are generally low but quite adequate for stock. The yield from the Hulett Sandstone, because of its coarse texture and relative thickness, may be the exception.

Minnelusa/Pahasapa (Madison)

The Minnelusa is generally too deep for economic development. However, where it is shallower near Hulett (700 feet) it is the source for a large flowing well. A few deep wells have been drilled to the Minnelusa and Pahasapa (or Madison) and produce large quantities of good quality water. Large supplies of water could be used from these aquifers.

Recharge to most of the aquifers underlying the area is through the outcrop areas. Except where the aquifers are exposed to the surface, recharge from surface infiltration is insignificant.

Surface Water

The planning area is drained primarily by four river basins: the Cheyenne River (51%), the Belle Fourche River (32%), the Little Missouri River (9%), and the Niobrara River (6%). A very small portion of the area (2%) drains into the Platte and Powder Rivers. Peak runoff occurs generally at two times during the year. Early runoff (March through April) is in response to snowmelt with the major peak occurring in May and June in response to rainfall events. A summary of monthly average daily flows at selected stations in the planning area and a tabulation of the stream gauging stations in the planning area are available for review in the MSA on file at the Newcastle Field Office. Most of the streams in the planning area are ephemeral in nature and flow only in response to snowmelt and rainfall events. Surface water quality of the area is generally suitable for livestock and limited irrigation of salt tolerant crops. Table

3-20 is a summary of water quality samples taken at selected sites in the planning area.

The State of Wyoming, DEQ, is in the process of implementing a nonpoint source pollution control plan (Clean Water Act, section 319). The state's waters have been classified into four categories, as part of this implementation. The water quality standards are listed in chapter 1 of the Wyoming DEQ's *Water Quality Rules and Regulations* (WDEQ 1990). Class 1, 2, and 3 waters are those with specific water quality standards that must be maintained (map 3-21).

WILDLIFE RESOURCES

The Newcastle planning area provides potential habitat for 447 species of wildlife. Of these, 282 species of birds, 76 species of mammals, 30 species of reptiles and amphibians, and 59 species of fish have been documented as occurring in the area or adjacent similar habitats.

There are a wide diversity of wildlife habitats and populations in the planning area. Important habitat types include riparian areas, grasslands, shrublands, and timbered areas. Within each of these general types or communities are individual habitat types providing a variety of combinations of food, shelter, water, and breeding habitats preferred by a variety of species. Some types are used year-long while others provide different requirements that vary seasonally. Acreage estimates for these various habitat types have not been tabulated; however, acreages of general community types are shown in table 3-21.

Some specialized habitat types such as prairie dog towns, riparian areas, rare or unique plant communities, and shrub communities have been surveyed and recorded. Information on these habitat types is available at the Newcastle Field Office.

TABLE 3-20
WATER QUALITY SUMMARY FOR SELECTED STATIONS IN THE NEWCASTLE PLANNING AREA

Station Name	Water Temperature (°C)	Specific Conductivity	pH	Bicarbonate (mg/l)	Carbonate (mg/l)	Calcium (mg/l)	Magnesium (mg/l)	Sodium (mg/l)	Potassium (mgl)	Chlorine (mgl)	Sulfate (mgl)	Fluorine (mgl)	Total Dissolved Solids (mgl)
Niobrara River at state line	11.1	441	7.5	-----	-----	51.0	11.0	8.8	5.7	2.2	14.0	0.3	267
Belle Fourche River at Devils Tower	10.4	1,481	8.0	227.0	0.3	174.4	54.4	96.9	7.0	9.1	651.5	0.6	1,123
Belle Fourche below Moorcroft	10.7	2,386	8.0	425.1	1.3	105.4	63.9	294.3	11.0	62.5	761.9	0.5	1,500
Donkey Creek near Moorcroft	9.4	3,249	8.1	565.1	2.5	152.3	144.2	595.3	16.4	101.6	1,607.0	1.1	2,962
Beaver Creek near Newcastle	10.6	4,105	7.6	184.0	0.0	374.4	123.4	807.8	6.6	594.4	1,558.5	0.9	3.268
Cheyenne River near Riverview	15.5	3,414	8.1	302.1	0.5	193.0	77.5	497.0	11.6	74.3	1,482.2	0.7	2,288
Cheyenne River at Riverview	15.6	2,707	7.9	-----	-----	172.0	68.9	436.0	11.4	86.4	1,286.2	0.5	2,207
Lance Creek near Riverview	13.2	3,155	7.9	355.4	0.0	194.6	71.7	469.6	12.9	106.4	1,346.2	0.6	2,420
Lodgepole Creek near Hampshire	10.8	2,788	8.6	759.5	28.2	22.2	17.8	625.4	7.3	16.7	7,672.0	0.6	1,847
Black Thunder Creek near Hampshire	12.6	886	7.9	150.0	0.0	49.0	21.5	116.0	85.7	8.0	328.8	0.5	660
Little Thunder Creek near Hampshire	11.1	2,049	8.0	274.3	0.3	93.3	58.8	280.1	12.9	14.7	771.4	0.5	1,448
Little Missouri River near New Haven	14.3	1,600	7.5	140.0	0.0	100.0	59.3	172.6	9.2	4.1	706.7	0.6	1,129

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TABLE 3-21
ACREAGE OF COMMUNITY TYPES

Type	Acreage
Woodland	25,300
Riparian	1,363
Aquatic	1,065
Shrub-grassland[1]	264,772

[1] Includes all shrub species.

Four big game species inhabit the resource area: mule deer, white-tailed deer, pronghorn antelope, and elk. Mule deer occur in most habitats in the planning area with the greatest concentrations on public land occurring in foothill areas and the rough, broken plains areas. White-tailed deer occur in the timbered habitats found along the Wyoming-South Dakota state line in Weston County and in association with riparian zones. Crucial winter ranges, including 9,080 acres of public lands, have been identified for both deer species in the planning area. These areas are shown on map 3-22. Pronghorn antelope prefer the open plains areas of all three counties, and elk use on public land is restricted to the timbered habitat types in Weston and Crook counties. Table 3-22 shows big game populations in the planning area. Maps 3-16, 3-17, 3-18, 3-23, and 3-24 show hunt areas and herd unit areas for deer, antelope, and elk.

TABLE 3-22
WGFD 1996 BIG GAME POST-SEASON POPULATIONS AND POPULATION OBJECTIVES

Herd Unit	Post-season Population	Population Objective
ANTELOPE		
North Black Hills	10,277	14,000
South Black Hills	2,309	3,000
Thunder Basin	6,985	8,000
Lance Creek	26,016	27,000
MULE DEER		
Black Hills	21,592	20,000
Lance Creek	15,709	18,000
Thunder Basin	17,201	13,000
ELK		
Black Hills	unknown	500
Rawhide	90-110	40
WHITE-TAILED DEER		
Black Hills	29,027	40,000
Thunder Basin	unknown	1,750

SOURCE: WGFD 1998.

The only trophy game species present in the area is the mountain lion. The majority of sightings have occurred in the Elk Mountain area and the foothills areas along the eastern side of Weston County.

Upland game species include sage grouse, sharp-tailed grouse, ruffed grouse, and wild turkeys. Sage grouse are found on the sagebrush grasslands, while sharp-tailed grouse prefer foothills transition zones between shrub communities and forested lands. Ruffed grouse prefer timbered habitats. Activity levels of sage grouse and sharp-tailed grouse leks and nesting areas can vary greatly from year to year depending on population levels. It is not uncommon for a lek to have no or little activity for a period of years, then become active again as populations and habitat conditions become more favorable. Tables 3-23 and 4-1 denote recorded leks with current or recent activity. These leks may become more or less active in future years—some may be abandoned and new ones may be established. Turkeys generally prefer the same habitat types as white-tailed deer—timbered areas and riparian zones.

TABLE 3-23
SAGE GROUSE AND SHARP-TAILED GROUSE AREAS

	Crook County	Weston County	Niobrara County	Total
SAGE GROUSE				
Number of strutting grounds[1] with public land or split estate	10	15	14	39
Number of leks on public land[2]	0	4	3	7
Total number of strutting grounds in county	10	33	14	57
SHARP-TAILED GROUSE				
Number of strutting grounds[1] with public land or split estate	23	2	0	25
Number of leks on public land[2]	0	0	0	0
Total number of strutting grounds in county	51	17	2	70

[1] Strutting grounds include the entire 2-mile restricted-use area for sage grouse and a 1-mile radius for sharp-tailed grouse (including the breeding complex and nesting areas).

[2] Lek refers to the actual breeding (usually called the strutting ground) at the center of the restricted-use area.

Waterfowl species are not common on public lands in the area but when suitable aquatic and riparian habitats exist they are usually occupied by ducks, geese, shorebirds, and other water birds. The planning area falls in the central flyway but is not in any of the heavily used migration routes. Nesting occurs where adequate water and cover exist and use of surface waters are made in the spring and fall as resting and loafing areas for ducks and geese.

In 1982 and 1992 surveys of prairie dog towns on public lands were conducted in Crook, Weston, and Niobrara counties. The number of towns and acreages of the towns on public land is shown in table 3-9. Prairie dogs are extremely prolific and have the capability of expanding their towns very rapidly when conditions are favorable.

Since 1982 three control efforts have taken place on 970 acres of public land. In all instances only approved pesticides for rodent control were allowed and were applied either by APHIS or another applicator under their supervision.

Special Situation Areas

Aquatic Habitat

The Newcastle area is lacking in an abundance of streams and lakes that are capable of sustaining a game fishing resource. The planning area contains 1,065 acres of surface waters in 390 ponds and reservoirs. The number of miles of streams and their classification has not been completed for the planning area. While some stream habitat such as the short sections of the Belle Fourche River that occur on public land support game species, the opportunity for management is low due to the small amount of public land involved. Ponds and reservoirs are well adapted to several species including rainbow trout and largemouth bass and many do contain these species. However, very little management activity has taken place due to the isolated location and lack of public access to most waters on public lands. Table 3-24 gives the trout stream classifications for the three counties in the planning area.

TABLE 3-24
TROUT STREAM CLASSIFICATIONS

	Niobrara County	Weston County	Crook County	Total
Class 1	0	0	4	4
Class 2	0	0	1	1
Class 3	0	13	9	22
Class 4	4	0	0	4
Class 5	0	0	0	0

Class 1: Premium trout waters/fisheries of national importance.

Class 2: Very good trout waters/fisheries of statewide importance.

Class 3: Important trout waters/fisheries of regional importance.

Class 4: Low production waters/fisheries of local importance but generally incapable of sustaining substantial fishing pressure.

Class 5: Very low production waters/fisheries often incapable of sustaining a fishery.

SOURCE: WGFD 1987.

Riparian Habitat

Riparian habitat inventory began in 1988 and was scheduled to be completed in 1990. Due to budget constraints the inventory was completed in 1992. Preliminary data depicting acres, classification, and condition are shown in table 3-25. While riparian habitat constitutes a very small percentage of total public land surface in the planning area it contributes a disproportionate value to the needs of a large number of wildlife species providing food, shelter, and breeding areas as well as nesting sites for birds.

TABLE 3-25
PRELIMINARY RIPARIAN CLASSIFICATION INFORMATION

	Crook County	Weston County	Niobrara County	Total
Number of wetlands inventoried	180	87	123	390
Number of wetlands classified	142	55	72	269
Total acreage of wetlands	497	133	435	1,065
CLASSIFICATION				
Good Condition				
Number of sites	45	5	10	60
Acreage of sites	163	19	103	285
Fair Condition				
Number of sites	60	25	39	124
Acreage of sites	250	80	227	557
Poor Condition				
Number of sites	31	18	0	49
Acreage of sites	75	28	0	103
No Wetland Present				
Number of sites	2	4	0	6
Acreage of sites	3	1	0	4

Habitat zone types that offer a diversity in structure and vegetative species such as riparian zones, juniper-shrub woodlands, and ponderosa pine forests also support the greatest diversity of wildlife species. This is due to the large number of sites available for providing feeding, reproduction, and shelter areas.

Riparian areas also attract domestic livestock for the same reasons that wildlife species are attracted, resulting in a higher degree of use than is found on adjacent uplands. The BLM recognizes the value and importance of riparian areas and has established policies for managing riparian zones.

T&E Species

The ESA of 1973 recognized that endangered or threatened species of fish, wildlife, and plants "are of aesthetic, ecological, educational, historical, recreational and scientific value to the nation and its people." An agency cannot allow any management actions or permit any actions on federal land that could contribute to the decline of a listed species or cause a species to become a candidate for listing under the provisions of the ESA. This pertains primarily to actions affecting the black-footed ferret, bald eagle, peregrine falcon, Ute ladies'-tresses orchid, swift fox, and mountain plover (Jennings 1997).

The black-footed ferret, bald eagle, and peregrine falcon may occur in the planning area. While no confirmed sightings have been made in the last 10 years of the black-footed ferret, several unconfirmed reports have been made and suitable habitat does exist. Black-footed ferrets use prairie dogs almost exclusively as a prey base and live in prairie dog towns. The Ute ladies'-tresses orchid occurs within the boundaries of the planning area in Niobrara County along the Niobrara River and may occur in other riparian or wetland areas within the planning area.

Candidate species and species listed by the state of Wyoming as species in need of special management occur in the area and are listed in table 3-26. Candidate species are those federally designated (FWS) plants and animals for which the FWS has on file sufficient information on biological vulnerability and threat(s) to support proposals to list them as endangered or threatened species. Proposed rules have not yet been issued because this action is currently precluded by other listing activity. Development and publication of proposed rules for these plants and animals are anticipated. The FWS encourages state and other federal agencies as well as other affected parties to give consideration to these species in environmental planning.

TABLE 3-26
THREATENED, ENDANGERED, AND CANDIDATE SPECIES
(includes animals and plants)

Listed Species	Candidate Species[2]
Black-footed ferret........(E)[1]	Mountain plover
Mustela nigripes	*Charadrius montanus*
Bald eagle.................(T)[1]	Swift fox
Haliaeetus leucocephalus	*Vulpes velox*
Peregrine falcon...........(E)[1]	
Falco peregrinus	
Ute ladies'-tresses orchid (T)[1]	
Spiranthes diluvialis	

[1] 50 CFR 17.11 & 17.12. October 31, 1996, Endangered and Threatened Wildlife and Plants.

[2] Jennings 1997.

The following species have been identified by the WGFD as being in need of special management and occurring within the boundaries of the Newcastle planning area.

Avian Species of Special Concern

Common Loon (C) (SSC1)
Gavia immer
American White Pelican (C) (SSC3)
Pelecanus erythrorhynchos
American Bittern (C/PR) (SSC3)
Botarus lentiginosus

Mammalian Species of Special Concern

Western Small-footed Myotis (C) (SSC3)
Myotis ciliolabrum
Long-eared Myotis (C) (SSC3)
Myotis evotis
Northern Myotis (C) (SSC2)
Myotis septentrionalis

Avian Species of Special Concern

Black-crowned Night-Heron (C)(SSC3)
Nycticorax nycticorax
White-faced Ibis (C) (SSC3)
Plegadis chihi
Forster's Tern (C) (SSC3)
Sterna forsteri
Black Tern (C) (SSC3)
Chlidonias niger
Trumpeter Swan (C) (SSC2)
Cygnus buccinator
Bald Eagle (C) (SSC2)
Haliaeetus leucocephalus
Northern Goshawk (C) (SSC4)
Accipiter gentilis
Ferruginous Hawk (C) (SSC3)
Buteo regalis
Merlin (C) (SSC3)
Falco columbarius
Peregrine falcon (C) (SSC3)
Falco peregrinus
Mountain Plover (C) (SSC4)
Charadrius montanus
Long-billed Curlew (C) (SSC3)
Numenius americanus
Yellow-billed Cuckoo (C) (SSC3)
Coccyzus americanus
Lewis' Woodpecker (C) (SSC3)
Melanerpes lewis

Mammalian Species of Special Concern

Little Brown Myotis (C) (SSC3)
Myotis lucifugus
Fringed Myotis (C) (SSC2)
Myotis thysanodes
Long-legged Myotis (C) (SSC2)
Myotis volans
Big Brown Bat (C) (SSC3)
Eptesicus fuscus
Townsend's Big-eared Bat (PO) (SSC2)
Corynorhinus townsendii
Pallid Bat (PO) (SSC2)
Antrozous pallidus
Black-tailed Prairie Dog (C) (SSC3)
Cynomys ludovicianus
Swift fox (C) (SSC3)
Vulpes velox
Lynx (HX/X) (SSC2)
Lynx lynx
Black-footed Ferret (HX) (SSC1)
Mustela nigripes

C - Confirmed (>95% certain) or known to occur
PR - Predicted (>80% certain)
PO - Possible (10-80% certain)
HX - Historical Excluded, species historically occurred, but is not expected to occur anymore
X - Excluded, originally coded as confirmed, predicted or possible, but believed to be in error

SSC1, SSC2, SSC3 - Species of Special Concern 1, 2, 3 (see Appendix L for matrices of habitat and population variables).

SOURCE: WGFD 1996, USBS 1996.

A variety of raptors exist in nearly all habitat types in the planning area. Populations are not known for public land at this time, but nest concentration areas are shown on map 3-25. Additional use is made of public land for a forage prey base in many areas. Raptor information is not gathered on a routine basis with the exception of recording the activity of known nests.

Fish species identified by the WGFD as being rare, but possibly occurring in the planning area are the: northern pearl dace, finescale dace, hornyhead chub, silvery minnow, goldeye, sturgeon chub, and shovelnose sturgeon. Species identified by the WGFD as a special management concern (not rare), and only occurring in limited numbers in the planning area are: plains topminnow, Iowa darter, stoneroller, plains killifish, freshwater drum, spottail shiner, and emerald shiner.

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CHAPTER 4

ENVIRONMENTAL CONSEQUENCES

INTRODUCTION

This chapter presents the environmental consequences of implementing the management actions in the Proposed RMP as described in chapter 2. Both the beneficial and adverse impacts are discussed. The impact analysis is cumulative, not site-specific.

The identification and analysis of impacts presented in this chapter were based on available information and on the professional judgement of resource specialists.

The projected level of development, where known, is presented with the discussion of the individual program.

The value of maintaining biodiversity of plant and animal species has long been recognized as a necessary and desirable goal for resource management. In all alternatives presented, an effort was made to provide for consideration of biodiversity and for reasonable resource development opportunities, while still providing adequate resource and environmental protection.

EFFECTS ON ENVIRONMENTAL JUSTICE

Issues relating to the social, cultural, and economic well-being and health of minorities and low income groups were evaluated. Such issues are termed environmental justice issues. None were identified that would be effected. Other impacts related to visual resources and socioeconomic activity are addressed in the appropriate sections of this analysis.

Compliance with Executive Order 12898 concerning environmental justice will be accomplished through scoping conducted to receive public comment. In reviewing the impacts of this alternative on socioeconomic resources, surface water and groundwater quality, air quality, hazardous materials, or other elements of the human environment, it was determined that potentially adverse impacts do not disproportionately affect Native American tribes or minority and/or low-income groups in the planning area.

Table 4-1
Summary of Impacts by Alternative

Affected Land Use or Resource	Impacts Under the Proposed RMP	Impacts Under Current Management – Alternative A	Impacts Under Alternative B	Impacts Under Alternative C
AIR QUALITY	Air pollution levels would not exceed the criteria pollutant standard levels in the planning area as a result of any activity under the Proposed RMP. The criteria pollutants, the applicable standards (NAAQS and WAAQS), and the background concentrations are given in table 3-1. All BLM-administered public lands in the planning area are classified as PSD Class II areas. The PSD regulations are ambient standards. They are given in table 3-2 and explained in more detail in chapter 3.	Same as Proposed RMP	Increased levels of timber harvest would result in large amounts of slash debris that, if burned, would increase the volume of particulates by a factor of three to the atmosphere over the levels in the Proposed RMP.	Same as Proposed RMP.
CULTURAL RESOURCES	All programs that involve surface-disturbing projects collectively drive the cultural resources compliance program. The oil and gas program has the largest impact, both beneficial and adverse, on cultural resources because of the number of projects and acreages involved. Even though a few undiscovered cultural sites may be damaged or destroyed, many more sites would be discovered because before approval of any of the above activities a cultural survey must be completed. For some land use activities, such as grazing and recreational activities, the impacts to cultural resources have never been adequately assessed even though damage to cultural resources may occur through trampling, erosion, and rubbing of rock art.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.

Table 4-1
Summary of Impacts by Alternative

Affected Land Use or Resource	Impacts Under the Proposed RMP	Impacts Under Current Management – Alternative A	Impacts Under Alternative B	Impacts Under Alternative C
CULTURAL RESOURCES (continued)	Public awareness and education about the significance and fragility of cultural resources are crucial to the future preservation of sites. Interpretive exhibits would increase the general publics' knowledge, awareness, and sensitivity about the area's prehistoric and historic cultural resources. As a result, it is anticipated that damage to cultural resources would decrease compared to Alternative A.	No interpretive facilities would be provided in the resource area. This lack of interpretation about the area's prehistoric and historic cultural resources would result in a potential for cultural resources being damaged.	Same as Proposed RMP.	Same as Proposed RMP.
FIRE MANAGEMENT	Prohibiting development in the ¼-mile or visual horizon buffer around significant historic trail segments would preserve the integrity of the trails.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	Prescribed fires could be precluded in some areas in adherence to air quality standards.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
FOREST RESOURCES	When management practices allow the basal area to go over or under the optimum basal area, the ability of the forest to produce wood fiber would be reduced. Forest management practices under this alternative would maintain the optimum basal area.	Same as Proposed RMP.	When management practices allow the basal area to go over or under the optimum basal area, the ability of the forest to produce wood fiber would be reduced. The accelerated harvest level of this alternative would mean an uneven supply of forest products to the local economy. The rise and fall in the supply of forest products would bring about a drastic change in the historic evenflow which has occurred.	Same as Proposed RMP.

Table 4-1
Summary of Impacts by Alternative

Affected Land Use or Resource	Impacts Under the Proposed RMP	Impacts Under Current Management -- Alternative A	Impacts Under Alternative B	Impacts Under Alternative C
FOREST RESOURCES (continued)	Maintaining 5% of the forested acreage in the planning area for "old growth" would ensure the existence of this component of the forest and would also enhance stand diversity. Eventually larger trees would be available for harvest as these areas are rotated through the various growth cycles in the forest. This would contribute to the biodiversity of the forest and provide habitat for a variety of wildlife species that depend on or prefer older trees and their associated species.	No special attention would be given to the old growth component of forested lands on BLM-administered public surface. This could result in the loss or reduction of this component of the forest ecosystem and would not contribute to providing wildlife habitat variation.	Same as Proposed RMP.	Same as Proposed RMP.
	Landownership adjustments in the planning area could have a long-term beneficial effect on the forest resource. Forest management activities would be enhanced by consolidating small parcels.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	Slope restrictions for road construction and skidder-type logging would adequately reduce soil erosion and sedimentation in drainages and help maintain water quality.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	The requirement to rehabilitate roads used for timber harvest (to enhance other management opportunities) would decrease timber sales costs.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.

Table 4-1
Summary of Impacts by Alternative

Affected Land Use or Resource	Impacts Under the Proposed RMP	Impacts Under Current Management -- Alternative A	Impacts Under Alternative B	Impacts Under Alternative C
FOREST RESOURCES (continued)	Forest enhancement opportunities on 2,082 acres would be managed to maintain Class II visual resources designation on public lands around Devils Tower National Monument and a Class II visual resources designation on lands in Weston County.	The visual quality provided by the trees would not be protected.	Same as Proposed RMP.	Same as Proposed RMP.
GEOLOGY AND MINERAL RESOURCES ***Leasable Minerals*** **Coal**	The coal classification is no longer serving its intended purpose. Removal or termination of the classification would have no effect on land use.	The coal classification remaining on 194,520 acres other than an encumbrance on disposal would have no effect on land use.	Same as Proposed RMP.	Same as Proposed RMP.
Oil and Gas	Paleontological values on BLM-administered federal interests would be preserved. Federal operators could be required to cease operations for several days while fossils are evaluated and longer if it is a significant find. A suspension of operations may be granted if lease status is adversely affected by work stoppage due to paleontological resources.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	There should be little or no conflict with oil and gas development activity and no adverse affect on leasing in the proposed primitive campsite locations (sections 5, 8, T. 56 N., R. 66 W. and section 1, T. 56 N., R. 67 W.). Any oil and gas leases involving these areas would have a stipulation added to protect the campsite locations from surface-disturbing activities.	There would be no conflict with oil and gas development activity as no campsites would be developed.	Same as Proposed RMP.	Same as Proposed RMP.

Table 4-1
Summary of Impacts by Alternative

Affected Land Use or Resource	Impacts Under the Proposed RMP	Impacts Under Current Management -- Alternative A	Impacts Under Alternative B	Impacts Under Alternative C
GEOLOGY AND MINERAL RESOURCES (continued) ***Leasable Minerals*** **(continued)** **Oil and Gas (continued)**	Designating sensitive plant species would, by itself, have little effect on leasing or development of oil and gas resources. If sensitive species were identified in oil and gas development areas, the required searches by a qualified botanist could cause slight delays and could be an additional expense for oil and gas operations. If searches could not be done year round, significant delays could occur. If these species are found, limitations on surface-disturbing activities would be implemented.	The Nature Conservancy has developed a "watch list" for sensitive plant species but that would not provide any protection.	Same as Proposed RMP.	Same as Proposed RMP.
	The Class II visual designation for the area around Devils Tower would probably preclude oil and gas development on approximately 3,400 acres. Because of the low development potential for oil and gas in the area, it is unlikely any exploration or development would occur in the foreseeable future regardless of visual resource management designation.	Having no visual resource designation does not preclude oil and gas development.	Same as Proposed RMP.	Same as Proposed RMP.
	The ¼-mile or visual horizon buffer protecting significant segments of National Register-eligible trails may prohibit drilling within that area. The increased cost to directionally drill may prohibit reserves from being taken.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.

Table 4-1
Summary of Impacts by Alternative

Affected Land Use or Resource	Impacts Under the Proposed RMP	Impacts Under Current Management -- Alternative A	Impacts Under Alternative B	Impacts Under Alternative C
GEOLOGY AND MINERAL RESOURCES (continued) ***Locatable Minerals***	Other program activities would have minimal impact on locatable minerals development.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	Winter range stipulations (for big game species) during the period from November 15 through March 30 may limit operators conducting activities under notices of intent and plans of operation.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	A plan of operations would be required for any surface-disturbing activity over five acres. Since most of the activity in the resource area is under five acres, no plan of operations would be required for most actions. This could result in unregulated disturbance on several sites with cumulative impacts on several hundred acres.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	Evaluating landslide areas before approving a plan of operation may slow down the process.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
Salable Minerals	Wildlife winter range stipulations from November 15 through March 30 may require operators of sand and gravel pits to cease operations during that time period.	Same as Proposed RMP.	Winter range stipulations **with no exception** from November 15 through March 30 would require operators of sand and gravel pits to cease operations until that time period has passed.	Same as Proposed RMP.

Table 4-1
Summary of Impacts by Alternative

Affected Land Use or Resource	Impacts Under the Proposed RMP	Impacts Under Current Management – Alternative A	Impacts Under Alternative B	Impacts Under Alternative C
GEOLOGY AND MINERAL RESOURCES (continued) ***Salable Minerals*** **(continued)**	The prescribed management for the Whoopup Canyon ACEC and VRM Class II area would preclude sand and gravel site development in the area. This impact would be minimal because of the ample number of existing and potential material site locations in the planning area.	Impacts to material sales would be minimal because of the ample number of existing and potential locations in the planning area. Having no VRM classifications in the planning area would not preclude potential sand and gravel site development.	Same as Proposed RMP.	Same as Proposed RMP.
	The ¼-mile or visual horizon buffer protecting significant segments of eligible trails may prohibit some development within that area.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
Geophysical Exploration	Restrictions to protect other resources would have a minimal impact on geophysical activity. These restrictions would be such things as limiting the time or season of activity due to wet conditions or for wildlife protection.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	The ¼-mile or visual horizon buffer protecting recreation sites may prohibit some development within that area.	Same as Proposed RMP.	Development activities would not be restricted near recreation sites.	Same as Proposed RMP.

Table 4-1
Summary of Impacts by Alternative

Affected Land Use or Resource	Impacts Under the Proposed RMP	Impacts Under Current Management – Alternative A	Impacts Under Alternative B	Impacts Under Alternative C
GEOLOGY AND MINERAL RESOURCES (continued) ***Paleontology Resources***	Surface-disturbing activities could impact paleontological resources by exposing buried fossils. This may result in damage, but it could create opportunities for new discoveries. Assessment and mitigation guidelines for paleontological resources provide a series of filters that paleontologists and managers can use to identify areas where there are noteworthy fossils, and to develop recommendations for mitigating damage from surface disturbance. These guidelines are applied wherever there is reason to believe that noteworthy fossils are present.	Same as Proposed RMP.	A paleontological inventory for the entire planning area would be unnecessary because the standard provisions identified under the Proposed RMP adequately protect the resource.	Same as Proposed RMP.
LANDS AND REALTY	Applying protective measures of other resource programs could extend the completion time or change the location of some projects and also affect the availability of areas for land tenure adjustment.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	The VRM Class II designation area around Devils Tower would protect the visual quality of the area and allow more management flexibility.	The visual quality of the area would not be protected because of a lack of VRM classification.	Same as Proposed RMP.	Same as Proposed RMP.
	Prior evaluations of geologic hazards before approving lineal facilities and defining special construction methods would minimize potential problems.	Landslides may cause pipeline breaks releasing unwanted materials into the environment. Road sloughing may result in a human hazard as well as causing increased erosion and localized loss of vegetation communities.	Same as Proposed RMP.	Same as Proposed RMP.

Table 4-1
Summary of Impacts by Alternative

Affected Land Use or Resource	Impacts Under the Proposed RMP	Impacts Under Current Management -- Alternative A	Impacts Under Alternative B	Impacts Under Alternative C
LIVESTOCK GRAZING	The following benefits would be expected from implementation of grazing management plans and the associated construction of any proposed range improvements (water facilities and fencing). --- Better distribution of livestock and forage use on the public lands. The effect would occur in both the short term (up to 25 years) and the long term (more than 25 years). --- It is estimated that within 25 years of implementation forage production would increase as much as 15%. The increase, which is based on production potential described in NRCS range technical guides, could be allocated to livestock, wildlife, and watershed. The effect would be long term. --- Rest during critical growing periods would improve plant vigor and litter accumulation causing beneficial changes in organic matter content, soil structure, and permeability.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	The presence of prairie dogs may remove forage that would otherwise be available for livestock grazing. Allowing limited control on prairie dog towns that exist entirely on BLM-administered public land surface could limit the expansion of the towns to private and state lands.	Same as Proposed RMP.	The level of prairie dog control in towns on BLM-administered public land surface would result in maintaining constant levels of livestock forage.	Same as Proposed RMP.

Table 4-1
Summary of Impacts by Alternative

Affected Land Use or Resource	Impacts Under the Proposed RMP	Impacts Under Current Management -- Alternative A	Impacts Under Alternative B	Impacts Under Alternative C
LIVESTOCK GRAZING (continued)	Riparian management guidelines may restrict livestock use temporarily. Periods of restricted use, changes in season of use, or management of livestock in riparian zones should improve riparian areas and benefit livestock grazing. In the short term, this could result in reduction of livestock use in the "I" category allotments. The intended coordinated activity planning for riparian management could maintain or increase livestock grazing levels.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	Continued fire management and rehabilitation of burned areas could restore or improve livestock forage by increasing the quality and quantity of forage.	Same as Proposed RMP.	Livestock forage enhancement from prescribed fire would be precluded.	Same as Proposed RMP.
	Land tenure adjustments could maintain or decrease the amount of public land available for livestock grazing. Any withdrawals, sales, or exchanges could reduce or eliminate existing grazing leases and subsequently result in fewer leases and less administrative costs for the BLM. Larger blocks of public lands resulting from exchanges or acquisition would result in more efficient BLM management areas for livestock grazing.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	Timber harvesting would increase forage for livestock and wildlife.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.

Table 4-1
Summary of Impacts by Alternative

Affected Land Use or Resource	Impacts Under the Proposed RMP	Impacts Under Current Management -- Alternative A	Impacts Under Alternative B	Impacts Under Alternative C
LIVESTOCK GRAZING (continued)	ORV designations would control the indiscriminate use of vehicles on BLM-administered public land surface. This would reduce surface disturbance and the harassment of livestock and wildlife.	No similar effects.	Indiscriminate use of motorized vehicles by the public on BLM-administered public land surface having public access would create erosion, new roads, disturbance to wildlife and livestock, and damage to vegetation.	Same as Proposed RMP.
	Protective measures identified for the Whoopup Canyon ACEC and developed recreation sites would restrict or preclude livestock grazing in the area. Some of the area may have to be protected by fences. This could result in a negligible reduction in grazing use. For Whoopup Canyon, a reduction of only three AUMs is anticipated.	Grazing use would not be reduced in Whoopup Canyon.	Same as Proposed RMP.	Same as Proposed RMP.
	Developing the proposed Meadow Draw recreation site and reservoir could reduce livestock grazing by up to 20 AUMs but would provide a reliable source of high quality water for livestock and wildlife.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
RECREATION RESOURCES	Development of a recreation site at the proposed Meadow Draw Reservoir (T. 45 N., R. 63 W., section 8) would allow recreation use of the area to its fullest potential.	Same as Proposed RMP.	Development of the Meadow Draw site in T. 45 N., R. 63 W., section 8 as a wildlife habitat improvement project with no visitor facilities would not allow the site to be used to its fullest recreation potential.	Same as Proposed RMP.

Table 4-1
Summary of Impacts by Alternative

Affected Land Use or Resource	Impacts Under the Proposed RMP	Impacts Under Current Management -- Alternative A	Impacts Under Alternative B	Impacts Under Alternative C
RECREATION RESOURCES (continued)	If the Meadow Draw Reservoir area were developed, impacts associated with increased user visits could include wildlife disturbance, littering, vandalism, and sedimentation and erosion from roads and parking facilities.	Same as Proposed RMP.	The effects would be less than the Proposed RMP.	Same as Proposed RMP.
	The ¼-mile or visual horizon buffer around recreation sites would maintain the visual quality of the area.	Same as Proposed RMP.	The visual quality of these sites would not be protected.	Same as Proposed RMP.
	Designating and managing the planning area (excluding the proposed Stateline SRMA) as an extensive recreation management area would preclude intensive recreation management but would not limit public use. This would allow developments such as primitive campsites, day use areas, and sign programs.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.

Table 4-1
Summary of Impacts by Alternative

Affected Land Use or Resource	Impacts Under the Proposed RMP	Impacts Under Current Management -- Alternative A	Impacts Under Alternative B	Impacts Under Alternative C
RECREATION RESOURCES (continued)	Establishing the proposed primitive camping facilities in Crook County would increase visitor convenience, improve trash collection by localizing it thus reducing potential litter problems, and decreasing fire hazards by providing fire pits and campsites in areas that are easier to monitor and designed to create the least amount of environmental damage possible.	Since no campsites would be developed in the planning area, camping would occur on an uncontrolled basis. Trash, litter, and damage to the resource from use of inappropriate areas would continue. A service to the public would not be met. Conflicts between recreation site development and utility corridor development could occur, but the potential is very unlikely considering the scattered land pattern of the planning area. This could cause damage to vegetation and water resources as well as harassment to wildlife and livestock. Campers find areas to their liking or convenient to activities they are pursuing and establish a camp. These areas have no trash receptacles and no fire pits or grates. Trash and human waste could accumulate at popular use areas, and the potential problem for wildfires is increased. As the demand for use of the public lands increases camping would also increase on the public lands.	Same as Proposed RMP.	Establishing developed camping sites that would include hard-surface parking and camping areas, drinking water, trash, and sanitary facilities in Crook County would increase visitor convenience, improve trash collection, and decrease fire hazards.

Table 4-1
Summary of Impacts by Alternative

Affected Land Use or Resource	Impacts Under the Proposed RMP	Impacts Under Current Management -- Alternative A	Impacts Under Alternative B	Impacts Under Alternative C
RECREATION RESOURCES (continued)	Recreational use of an area could be temporarily displaced while timber harvesting operations were being conducted. Logging slash and debris left after harvest is completed may temporarily detract from recreational use of the area. Logging can improve the visual image of forests by opening dense stands of timber, reducing overgrown stands, and allowing for an increase in the amount and diversity of understory vegetation. Logging roads can provide vehicle access into areas that were previously restricted to nonmotorized mechanical transport.	Same as Proposed RMP.	A three-fold increase in timber harvest and a 50% increase in thinning activity in the planning area would result in a strong negative impact on the visual resource and reduce recreational opportunities in timbered areas for several decades (approximately 560 acres per year). Additional recreational use of the area could be temporarily displaced while timber harvesting operations were being conducted. An accelerated harvest would have a corresponding increase on the visual aspect of timbered areas. Accelerated harvest and increased slash and debris at this level may make those harvested areas unattractive enough to preclude recreational use until slash decomposes.	Same as Proposed RMP.
	Restricting firewood cutting for recreational use to dead and downed trees would reduce the potential for destruction of live trees and the hazards associated with cutting standing timber. This policy would help to maintain the aesthetics of the area.	There would be no regulations or restrictions regarding cutting trees for firewood. Indiscriminate cutting of live or dead trees for firewood would affect the wildlife population by decreasing habitat, and reducing structure and diversity of an area. Excess wood removal and cutting live trees in popular camping areas would reduce the aesthetics of the area.	If no firewood cutting for camping use were allowed, an increase in cutting in undesired areas and a loss of live trees and snags would occur. The publics' demand for an available resource would not be met. There would also be impacts to the aesthetics of the area.	Same as Proposed RMP.

Table 4-1
Summary of Impacts by Alternative

Affected Land Use or Resource	Impacts Under the Proposed RMP	Impacts Under Current Management -- Alternative A	Impacts Under Alternative B	Impacts Under Alternative C
RECREATION RESOURCES (continued)	Camping duration restrictions are currently in effect statewide. A 14-day camping limit would provide ample opportunity for camping use while preventing extended or permanent stays on BLM-administered public surface.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	The limited control of prairie dogs on BLM-administered public surface in the planning area would have little or no effect on the recreational use of this species for such activities as wildlife viewing and shooting.	Prairie dog control as a range improvement practice only when requested by a grazing lessee or adjacent landowner would decrease the recreational aspects (shooting) of prairie dog populations. This would reduce or eliminate viewing of prairie dogs and associated wildlife.	Controlling prairie dog town sizes on BLM-administered public surface would limit the availability of prairie dogs for recreational opportunities.	Same as Alternative B.
	The proposed ORV designations would allow use of the BLM-administered public surface while protecting resource values from excessive uncontrolled use. Some unroaded areas would not be accessible to motorized vehicles.	No ORV designations allows unregulated use of public lands. Damage to resource values could occur.	More resource damage could occur under this alternative compared to the Proposed RMP.	Same as Proposed RMP.

Table 4-1
Summary of Impacts by Alternative

Affected Land Use or Resource	Impacts Under the Proposed RMP	Impacts Under Current Management -- Alternative A	Impacts Under Alternative B	Impacts Under Alternative C
RECREATION RESOURCES (continued)	Range management practices that have a beneficial effect for wildlife such as water developments and improved livestock distribution also have a beneficial effect on the recreational use of wildlife. Grazing systems that include small pastures and a large number of miles of fencing can be detrimental to the recreational use of public land. Allowing livestock to graze on BLM-administered public surface during hunting seasons can lead to conflicts between recreational users and the lessee or the livestock. In the past, instances have occurred where public land users have been denied legal access to public land or discouraged from using public lands by grazing permit holders. This problem, while becoming less widespread, has not been resolved and is likely to continue in the future.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	Acquiring lands with recreation potential would expand the recreational opportunities and may also provide access to public lands that were previously unavailable. Consolidating public land into larger, manageable units would have the effect of increasing recreational opportunities.	Same as Proposed RMP.	The total amount of public lands available for recreational use would remain essentially the same--no reduction.	Same as Proposed RMP.

Table 4-1
Summary of Impacts by Alternative

Affected Land Use or Resource	Impacts Under the Proposed RMP	Impacts Under Current Management -- Alternative A	Impacts Under Alternative B	Impacts Under Alternative C
SOCIOECONOMICS	Income and taxes from mineral development, timber harvesting, recreation, and livestock grazing would continue to add to the economic base of the area at the same or a slightly lower level than has occurred in the recent past. The mineral industry, particularly oil and gas, is subject to potentially increased costs for such things as mitigation measures. Mitigation requirements for hazardous materials management could potentially increase costs. This may force small producers from business, and production may not be recovered because of the market. This could result in a decrease in production and tax revenues to state and local governments, as well as a slight decrease in royalty revenues returned to the state.	Income and taxes from mineral development, timber harvesting, recreation, and livestock grazing would continue to add to the economic base of the area. The application of some of the mitigation measures could increase the costs to operators.	Accelerated timber harvesting would generate about the same revenues as the Proposed RMP but over a shorter period of time.	Same as Proposed RMP
	In agriculture, there may be some fence construction or modification requiring labor contribution by the operator. It is unlikely that an agricultural operator would be forced from business or to change his operations.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.

Table 4-1
Summary of Impacts by Alternative

Affected Land Use or Resource	Impacts Under the Proposed RMP	Impacts Under Current Management -- Alternative A	Impacts Under Alternative B	Impacts Under Alternative C
SOCIOECONOMICS (continued)	The potential exists for counties to lose in lieu of tax revenues if BLM-administered public lands within the planning area are exchanged for lands in other parts of the state. This would be offset in whole or in part by tax revenues on the properties exchanged and held privately. In some counties the effect could be significant on a single parcel, but it is unlikely that a significant amount of public land in the NRA would be disposed.	Same as Proposed RMP.	In lieu of tax revenues would not be affected.	Same as Proposed RMP.
SOILS	Fire control measures such as fire lines remove vegetation and create drainageways which can concentrate overland flow increasing the velocity of runoff water and increasing soil erosion. Soil erosion could be mitigated by reseeding and water barring, resulting in only short-term soil loss before fire lines are revegetated.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	Prescribed burning of rangeland or slash in forest sale areas can cause localized short-term changes in the physical, chemical, and biological properties of the soil. Severity of the impact would depend on the fuel type, duration, and the intensity of the fire. Burning could decrease soil infiltration rates causing accelerated erosion and removal of some nutrients. Vegetation could be reestablished in one to three years, resulting in only short-term soil loss, and no reduction in long-term productivity of the site.	Same as Proposed RMP.	Same as Proposed RMP	Same as Proposed RMP.

Table 4-1
Summary of Impacts by Alternative

Affected Land Use or Resource	Impacts Under the Proposed RMP	Impacts Under Current Management – Alternative A	Impacts Under Alternative B	Impacts Under Alternative C
SOILS (continued)	Commercial timber harvesting causes soil disturbance resulting from road building, skidding, and yarding. Soil compaction from heavy equipment and vehicle traffic would reduce infiltration and permeability and reduce root growth. However, erosion would be minimized through the use of mitigating measures including ripping, water barring, reseeding, and closing roads and skid trails.	Same as Proposed RMP.	Accelerating the timber harvest to 460 acres per year would result in an additional 300 acres of soil disturbance per year, increasing the potential for erosion and a loss of soil productivity. About 97% of the total forest base (3,864 acres) has limited potential for forest management. These areas include steep slopes and rough terrain. This activity would result in a greater potential for erosion on the steep slopes. Shelterwood harvests and commercial thinnings would occur in these areas of limited potential.	Same as Proposed RMP.
	Effective grazing management, including rest during critical growing periods, would improve plant vigor and litter accumulation causing beneficial changes in organic matter content, soil structure, permeability, and productivity.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	Underground pipeline construction results in the mixing of soil materials. When less productive subsoil becomes mixed with the topsoil, overall reclamation potential of the topsoil is reduced. Through the application of standard stipulations, site-specific mitigation measures, and the use of routing alternatives, soil erosion could be minimized.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.

Table 4-1
Summary of Impacts by Alternative

Affected Land Use or Resource	Impacts Under the Proposed RMP	Impacts Under Current Management -- Alternative A	Impacts Under Alternative B	Impacts Under Alternative C
SOILS (continued)	By locating utility/transportation systems adjacent to existing systems whenever possible, additional soil disturbance would be minimized or localized, and enhanced soil resource protection would result.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	Two general areas are proposed for establishment of campsites (T. 56 N., R. 66 W., sections 5, 8, and T. 56 N., R. 67 W., section 1). This relatively large area (2 square miles) contains up to 20 different soil types. Nearly 50% of the soil types (series) in these areas have severe limitations for the development of campsites. Limitations include steep slopes, shallow depths to bedrock, high water tables, and potential flooding. Before campsites are developed a site-specific investigation should be conducted to avoid development on soils that exhibit the severe limitations mentioned above.	Since no campsites would be developed in the area, there would be no similar impacts.	Same as Proposed RMP.	Same as Proposed RMP.
	If the Meadow Draw Reservoir area were developed, impacts associated with increased user visits could include wildlife disturbance, littering, vandalism, and sedimentation and erosion from roads and parking facilities.	Same as Proposed RMP.	The effects would be less than the Proposed RMP.	Same as Proposed RMP.

Table 4-1
Summary of Impacts by Alternative

Affected Land Use or Resource	Impacts Under the Proposed RMP	Impacts Under Current Management – Alternative A	Impacts Under Alternative B	Impacts Under Alternative C
SOILS (continued)	Enhancing riparian zones would lead to more protective vegetation and greater streambank stability. The effect would be less bank sloughing and reduced headcutting which would decrease soil loss through these processes.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
VEGETATION RESOURCES	Treatment of noxious weeds would reduce the population as well as control the spread of undesirable species to adjacent state and private lands. Noxious weeds can create a severe economic problem by crowding and outcompeting desirable species for nutrients, water, and space. Currently, approximately 2,300 acres of public land in the planning area have noxious weed infestations (leafy spurge) severe enough to inhibit the growth of desirable plant species.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	Using chemical treatments could result in damage to nontarget species as well as leave residues of chemicals in the soil. Sheep, goats, and species-specific insects would provide the necessary control while reducing the amount of herbicides used.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	Temporary loss of vegetation could occur during logging on skid trails, roads, and landings. Reclaimed areas typically require treatment for the invasion of weeds for a short period after logging activity ends.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.

Table 4-1
Summary of Impacts by Alternative

Affected Land Use or Resource	Impacts Under the Proposed RMP	Impacts Under Current Management – Alternative A	Impacts Under Alternative B	Impacts Under Alternative C
VEGETATION RESOURCES (continued) ***Special Status Plants Species***	The proposed designation for the three identified species (table 3-19 in chapter 3) would provide protection of those species through inventory requirements and avoidance by mitigation measures on surface-disturbing activities on BLM-administered public lands. This may cause some disruptions or delays in approving the surface-disturbing activities as well as an additional expense to operators.	Management actions under this alternative could impact the sensitive plant species listed in table 3-19 in chapter 3) causing them to be considered for listing as threatened and endangered species.	Same as Proposed RMP.	Same as Proposed RMP.
VISUAL RESOURCES	Designating visual resource management classes would provide management guidelines to control authorized actions that would occur in the planning area. These guidelines would ensure that scenic values in the area would be protected.	VRM classes would not be established in the planning area. This could allow actions to occur (oil wells, road development, utility systems, timber cutting, and fences) that could temporarily or permanently alter the visual character of the area.	Same as Proposed RMP.	Same as Proposed RMP.
WATER RESOURCES	Due to the small amount of activity on public land in the planning area, expected impacts to water quality would be slight.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.

Table 4-1
Summary of Impacts by Alternative

Affected Land Use or Resource	Impacts Under the Proposed RMP	Impacts Under Current Management -- Alternative A	Impacts Under Alternative B	Impacts Under Alternative C
WATER RESOURCES (continued)	Short-term increased erosion and sedimentation could be expected from forest management activities. The most significant of these would result from road construction. Through the use of standard surface-disturbance stipulations (for example, no road construction on slopes exceeding 25%) and site-specific mitigation, these impacts would be insignificant. Water yield and runoff from forest harvest areas (approximately 1,600 acres) may increase up to approximately 10% depending on size, orientation, and aspect of the harvest area. These increases would decline to preharvest levels over approxi-mately 30 years as the stand becomes re-established. Because of the relative size of the harvest areas in comparison to the watersheds as a whole it is unlikely that these increases would be distinguishable offsite.	Same as Proposed RMP.	The types of impacts on forest resources would be the same as those under the Proposed RMP. However, since there would be two to three times as much land disturbed in the first 20 years, a commensurate increase in impacts could be expected, including a possible three-fold increase in water yield.	Same as Proposed RMP.
	Implementation of grazing systems and allotment management plans (AMPs) would result in increased surface cover, reduced erosion, and improved water quality.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.

Table 4-1
Summary of Impacts by Alternative

Affected Land Use or Resource	Impacts Under the Proposed RMP	Impacts Under Current Management -- Alternative A	Impacts Under Alternative B	Impacts Under Alternative C
WATER RESOURCES (continued)	Range improvement water development projects cause concentration of livestock and wildlife that would result in localized areas of increased erosion and sedimentation. However, improved livestock and wildlife distribution would result in overall range improvement and a corresponding reduction in erosion and sedimentation on a pasture-wide basis.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	Developing specific riparian management guidelines, and the subsequent implementation, would result in healthier riparian areas. Benefits to water resources as a result of improving riparian areas would include: reduced erosion and sedimentation; improved water quality (riparian zones act as filters that accumulate sediment and other pollutants); flood control (riparian areas tend to attenuate flood peaks); and, better flow duration (water stored in the alluvium associated with the riparian area during higher flows is slowly released during periods of lower flow or no flow).	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	Mining activities associated with the sale of sand, gravel, shale, bentonite, and limestone have the potential for increasing erosion and sedimentation due to surface disturbance. These impacts would be mitigated (but not eliminated) by applying site-specific mitigation measures.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.

Table 4-1
Summary of Impacts by Alternative

Affected Land Use or Resource	Impacts Under the Proposed RMP	Impacts Under Current Management -- Alternative A	Impacts Under Alternative B	Impacts Under Alternative C
WATER RESOURCES (continued)	Surface disturbance associated with oil and gas exploration and development activities would result in increases in erosion and sedimentation and a reduction in water quality at specific sites. These impacts would be minimized by application of site-specific mitigation measures.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	The effects of breaching a reserve pit are both chemical and physical. Chemical pollution could result from the direct contamination of water bodies and from contamination of the soil, which may release materials slowly over long periods. Physical degradation of water quality could result from destruction of vegetation, which causes increases in runoff and erosion and, consequently, increased sedimentation. These impacts could last for years until cleanup and reclamation are completed. These impacts would be minimized by application of site-specific mitigation measures (appendix E).	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	Produced water is often high in dissolved solids (in some cases to the point of being classified as brine) and is often quite warm (40°C and higher is common). Discharge of this water to surface or groundwater (reinjection) could cause degradation of the receiving water. Drilling activities would be regulated to mitigate these impacts.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.

Table 4-1
Summary of Impacts by Alternative

Affected Land Use or Resource	Impacts Under the Proposed RMP	Impacts Under Current Management -- Alternative A	Impacts Under Alternative B	Impacts Under Alternative C
WATER RESOURCES (continued)	Oil and gas exploration and development activities (particularly shot hole seismic operations) have the potential of disrupting aquifers. If well bores and shot holes are not properly plugged, mixing of aquifers may occur. This mixing could result in degraded water quality in some aquifers and lower water tables in some areas. Drilling activities would be regulated to mitigate these impacts.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	While regulations and stipulations would minimize the impact of new wells, problems with older wells increase with time. Aging, improperly or inadequately plugged and abandoned wells could also result in aquifer commingling and a resultant degradation of the water quality in some formations.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	Prescribed burning could result in short-term increases in erosion and sedimentation due to reduction in surface cover. As ground cover re-establishes, conditions would return to preburn levels and, if final ground cover is greater than preburn, erosion and sedimentation could be reduced below preburn levels.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	Developing concentrated use sites (for example, primitive campsites) would result in decreased erosion and sedimentation and chemical and biological pollutants.	Since no campsites would be developed in the area, there would be increased erosion and sedimentation and chemical and biological pollutants.	Same as Proposed RMP.	Same as Proposed RMP.

Table 4-1
Summary of Impacts by Alternative

Affected Land Use or Resource	Impacts Under the Proposed RMP	Impacts Under Current Management – Alternative A	Impacts Under Alternative B	Impacts Under Alternative C
WATER RESOURCES (continued)	If the Meadow Draw Reservoir area were developed, impacts associated with increased user visits could include wildlife disturbance, littering, vandalism, and sedimentation and erosion from roads and parking facilities.	Same as Proposed RMP.	The effects would be less than the Proposed RMP.	Same as Proposed RMP.
	Implementation of the proposed off-road vehicle designations would result in decreased surface disturbance and reduction of erosion and sedimentation.	Off-road vehicle use would result in more surface disturbance, erosion, and sedimentation than the Proposed RMP and Alternative B.	Surface disturbance, erosion, and sedimentation would be greater than under the Proposed RMP but less than Alternative A.	Same as Proposed RMP.
WILDLIFE HABITAT	Limited control of prairie dogs would provide a prey source for a variety of species. Prairie dogs also keep the vegetative composition in close proximity to their towns in an earlier successional stage that is generally higher in forb content than later stages. Vegetation in prairie dog towns could change to a later seral stage after control or loss of prairie dogs which may be less desirable to other wildlife species. Prairie dogs, and the plant, animal, and insect habitat they provide, contribute to the natural diversity of species in an ecosystem. Limited control would ensure the contribution to biodiversity these species make on the BLM-administered public lands.	Compared to the Proposed RMP, the effects under this alternative would be less. Biodiversity of the area would be altered by removing most of the prairie dogs as a component of the ecosystem.	Reducing or eliminating towns or acreage of towns would reduce habitat and a food source for various species. Elimination or reduction of towns would remove or lessen the availability of vegetation with higher forb content. Since vegetation in prairie dog towns could change to a later seral stage after removal of prairie dogs, this could be less desirable to some species. Biodiversity of the area could be altered by reducing prairie dogs as a component of the ecosystem.	Same as Alternative B.

Table 4-1
Summary of Impacts by Alternative

Affected Land Use or Resource	Impacts Under the Proposed RMP	Impacts Under Current Management – Alternative A	Impacts Under Alternative B	Impacts Under Alternative C
WILDLIFE HABITAT (continued)	Mitigating surface-disturbing activities on BLM-administered public land surface in crucial deer winter range (table 4-2; map 3-22; 9,080 acres) would allow the deer to use the area without undue harassment when their vulnerability is greatest and their ability to respond to stress is lowest. This would also remove the potential for habitat degradation. During mild winters when other winter habitat is available, requests for surface-disturbing activities could be approved by the authorized officer after confirming that the action would not have undue detrimental effects on wildlife.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	The ¼-mile or visual horizon buffer protecting significant segments of National Register eligible trails would have no effect on wildlife within that area.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.

Table 4-1
Summary of Impacts by Alternative

Affected Land Use or Resource	Impacts Under the Proposed RMP	Impacts Under Current Management -- Alternative A	Impacts Under Alternative B	Impacts Under Alternative C
WILDLIFE HABITAT (continued)	Timber harvesting and thinning could occur in crucial winter range without adversely affecting the value of the habitat. Timber stand improvements would have a beneficial effect on habitat by opening dense stands and increasing forage and species diversity in the understory. Some desirable thermal or hiding cover for some species may be reduced or lost through harvest or thinning activities. Improvements in habitat would be realized by tailoring silvicultural practices to benefit wildlife (age classes, snags, old growth, and basal area) but could result in a lower volume of timber harvesting in an area or increased cost of harvest. Also, increased forage would be available for livestock after timber harvesting.	Same as Proposed RMP.	Accelerated timber harvest levels would be detrimental to wildlife habitat values by reducing thermal and hiding cover. Harvesting at this level (approximately 460 acres per year) would take an extended time to recover to the point where habitat values returned to their optimum stage resulting in lowered use by forest-dependent species. Understory vegetation would increase resulting in increased diversity of species and an increase in available forage.	Same as Proposed RMP.
	Managing 5% of the forested areas for old growth would provide structural diversity and habitat for wildlife species that prefer old growth type habitats.	If the old growth forest component was not managed, this could result in a loss or reduction of this forest type. This would also remove habitat for species that depend on or prefer larger trees and associated understory vegetation.	Same as Proposed RMP.	Same as Proposed RMP.

Table 4-1
Summary of Impacts by Alternative

Affected Land Use or Resource	Impacts Under the Proposed RMP	Impacts Under Current Management -- Alternative A	Impacts Under Alternative B	Impacts Under Alternative C
WILDLIFE HABITAT (continued)	The following benefits would be expected from implementation of grazing management plans and the associated construction of any proposed range improvements (water facilities and fencing): --- Better distribution of wildlife resulting in increased population levels as more suitable habitat is occupied. --- New water sources (reservoirs) would provide additional habitat for waterfowl (approximately 1.5 acres per year). Biodiversity, wetland, and riparian components would also be increased.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	Prescribed fire would increase forage, site productivity, and improve wildlife habitat, watershed, riparian, and soil conditions.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	Movement of big game animals and stress levels would not be affected by fence locations in crucial big game winter ranges.	Same as Proposed RMP.	Fence construction in crucial big game winter ranges could restrict or impede movement of animals when their stress levels are high and energy reserves are low.	Same as Proposed RMP.

Table 4-1
Summary of Impacts by Alternative

Affected Land Use or Resource	Impacts Under the Proposed RMP	Impacts Under Current Management -- Alternative A	Impacts Under Alternative B	Impacts Under Alternative C
WILDLIFE HABITAT (continued)	Modifying old fences and constructing new fences to current BLM fence standards would be sufficient to eliminate the problem of restricting wildlife movement. This could result in livestock permittees not being allowed to build fences on BLM-administered public surface that would be detrimental to wildlife.	Old fences could restrict wildlife movement and cause excessive stress levels.	Same as Proposed RMP.	Same as Proposed RMP.
	Restricting access to reserve and overflow pits would reduce a hazard to wildlife species and domestic livestock attracted to a water source that may be contaminated with oil or toxic chemicals.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	Public land boundary identification could result in increased recreational hunting pressure which could cause localized harvest to increase. This could place an undue amount of pressure on species inhabiting BLM-administered public surface. Identifying boundaries would also result in fewer complaints from hunters and landowners and provide a service to the public using public lands.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	Consolidating public land through land tenure adjustment could make management more effective and could result in additional quality habitat.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.

Table 4-1
Summary of Impacts by Alternative

Affected Land Use or Resource	Impacts Under the Proposed RMP	Impacts Under Current Management -- Alternative A	Impacts Under Alternative B	Impacts Under Alternative C
WILDLIFE HABITAT (continued)	Implementation of riparian management guidelines would benefit wildlife, livestock, and the ecosystem as a whole through increased plant health and diversity, the presence of shade and water, stable water tables, water quality improvement, and development of highly productive soils.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	The proposed management for the Whoopup Canyon ACEC would protect wildlife habitat values through monitoring and protection of the site. Increased visitation or scientific study may result in disturbance to wildlife species inhabiting the area including nesting prairie falcons.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.
	Limiting off-road vehicle use to existing roads and trails would reduce potential impacts including damage to vegetation, increased erosion, and disturbance to wildlife and livestock.	ORV use would damage vegetation, increase erosion, and disturb wildlife and livestock.	Same as Proposed RMP.	Same as Proposed RMP.
SPECIAL MANAGEMENT AREAS ***Lance Creek Fossil Area***	The Lance Creek Fossil Area National Natural Landmark (NNL) would not be designated an ACEC. Instead, the application of statewide guidelines on assessment and mitigation of damage to paleontological resources would be applied to surface-disturbing activities throughout the planning area. This would allow consistent management and protection wherever noteworthy fossils occur.	Same as Proposed RMP.	Same as Proposed RMP.	Designating BLM-administered federal surface within the Lance Creek Fossil Area as an ACEC would emphasize management of paleontological resources and encourage future research of the paleontological record present in the area.

Table 4-1
Summary of Impacts by Alternative

Affected Land Use or Resource	Impacts Under the Proposed RMP	Impacts Under Current Management -- Alternative A	Impacts Under Alternative B	Impacts Under Alternative C
SPECIAL MANAGEMENT AREAS (continued) ***Stateline SRMA***	Developing trails in the proposed Stateline SRMA would respond to an increasing recreation demand in the Black Hills area. The SRMA designation would place this area in a category that would promote recreation as the primary use of the area. Increased visitation could be expected. This could result in vandalism, littering, disturbance to wildlife and livestock, damage to historic and prehistoric sites, conflicts with adjacent landowners and other resource users, and increased erosion from trail use and vehicle travel to trailheads. Information and interpretive signs would provide the public with knowledge of the natural resources present in the area.	The area in T. 43-46 N., R. 60 W., would be open to recreational use with no facilities, interpretative signs, or developments being constructed. No recreation trail designation would be made. This could result in indiscriminate use of the area causing impacts to soils, vegetation, wildlife, livestock, and conflicts with landowners. Educational opportunities would be foregone.	To construct two trails without interpretive signs or other developments would only meet a limited demand of the public users. Not having trash receptacles or parking areas established near the trailheads would lead to increased litter and trash in the area, and erosion and damage to vegetation would occur due to indiscriminate parking.	Same as Proposed RMP.

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Table 4-1
Summary of Impacts by Alternative

Affected Land Use or Resource	Impacts Under the Proposed RMP	Impacts Under Current Management -- Alternative A	Impacts Under Alternative B	Impacts Under Alternative C
SPECIAL MANAGEMENT AREAS (continued) ***Whoopup Canyon ACEC***	Compared to Alternative A, visitor use impacts to the site would be negligible because the site would not be developed for unrestricted public visitation. Instead, the educational values of the site would be brought to the public through exhibits, presentations, other off-site means, and supervised guided tours. This would result in increased public awareness of the significance and sensitivity of the site and would also result in a significant reduction of site damage.	The petroglyph panels would be impacted by unrestricted visitor use, shooting, vandalism, and livestock rubbing the panels. Damage would include chalking, painting, shooting, defacing, scratching, and touching the panels. Vandalism would increase the rate of natural erosion of the petroglyphs. Increased surface disturbance, erosion, sedimentation, new roads, disturbance to wildlife, and damage to vegetation could occur with unrestricted visitation to the site. The archeological deposits and surface artifacts would also be impacted. Unless protective measures were implemented, damage could be expected to increase because of greater public attention on the site.	Same as Proposed RMP.	Establishing day use facilities would increase visitor use and could have the potential for conflicts between resource users and adjacent landowners. This could increase the potential for damage to the rock art panels and associated cultural sites. Potential for escape of campfires could increase.
	The site would be available for Native American religious and cultural use. This is fully consistent with the site protection required under the conservation use classification for the site.	Same as Proposed RMP.	Same as Proposed RMP.	Same as Proposed RMP.

Table 4-1
Summary of Impacts by Alternative

Affected Land Use or Resource	Impacts Under the Proposed RMP	Impacts Under Current Management -- Alternative A	Impacts Under Alternative B	Impacts Under Alternative C
SPECIAL MANAGEMENT AREAS (continued) ***Whoopup Canyon ACEC*** **(continued)**	Controlling grazing, timber cutting, right-of-way actions, and mineral exploration and development would minimize impacts to the site. These measures would have little or no affect on other resources.	Mining activities associated with locatable minerals could destroy or cause damage to rock art panels and associated sites, increase erosion due to surface disturbance, and increase potential for vandalism. Construction of rights-of-way could impact rock art panels and associated sites. Timber harvesting activities (such as felling, skidding, yarding, and hauling) or removal of vegetative materials would impact cultural resources.	Same as Proposed RMP.	Same as Proposed RMP.
	Interested publics would be able to view the site only under BLM supervision. Legal access for management and administrative purposes only would minimize the effects of unrestricted visitor use.	There would be no public access to the site although access would be permitted courtesy of surrounding private landowners. Unauthorized use of the BLM-administered public surface could occur since the BLM does not control access to the site.	Same as Alternative A.	Gaining legal public access would result in unrestricted visitor use of the site.
	Exchanging lands to acquire important private lands in the area would bring sensitive petroglyph panels and associated archeological sites into federal ownership. Management of the site would be easier and more efficient.	Same as Proposed RMP.	The area being a combination of private and public landowners would make it difficult to manage effectively.	Same as Proposed RMP.
	Limiting vehicle use to administrative purposes only would eliminate unnecessary degradation of the area.	Limiting vehicle use to existing roads and trails would not adequately prevent vegetative damage and erosion in the area.	Same as Proposed RMP.	Same as Proposed RMP.

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Table 4-1
Summary of Impacts by Alternative

Affected Land Use or Resource	Impacts Under the Proposed RMP	Impacts Under Current Management – Alternative A	Impacts Under Alternative B	Impacts Under Alternative C
SPECIAL MANAGEMENT AREAS (continued) ***Whoopup Canyon ACEC* (continued)**	Under the VRM Class II designation, the visual integrity of the site would be maintained.	The visual integrity of the site would not be maintained.	Same as Proposed RMP.	Same as Proposed RMP.
	Management of fuels and control of fire would minimize potential fire and smoke damage to rock art panels.	The integrity of the petroglyphs could be affected by fire and smoke from fires.	Same as Proposed RMP.	Same as Proposed RMP.

TABLE 4-2
AREAS OF SURFACE USE RESTRICTIONS

Total Area of Big Game Ungulate Winter Range[a] (surface and mineral estate): 9,080 acres

Areas Covered by Grouse Protection Stipulation[b], [c]

	Total Number of Recorded Grounds	Number of Grounds Involving Surface and Minerals	Number of Leks on Public Lands
Sage grouse	67	39	7
Sharp-tailed grouse	70	25	0

Number of Acres Covered by "No Surface Occupancy" Stipulation[c]

Sage grouse:	126
Sharp-tailed grouse:	0

Number of Acres Covered by Seasonal Stipulation[b]

Sage grouse.	79,720
Sharp-tailed grouse:	7,690

Number of Acres Covered by Raptor Protection Stipulation:[b] 12,900

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[a] To protect important big game winter ungulate winter habitat, drilling and other surface-disturbing activity will not be allowed during the period from November 15 to April 30. This limitation does not apply to maintenance and operations of producing wells. Modification of this limitation in any year may be approved in writing by the authorized officer.

[b] To protect important raptor and or sage and sharp-tailed grouse nesting habitat, drilling and other surface-disturbing activity will not be allowed during the period from February 1 to July 31. This limitation does not apply to maintenance and operations of producing wells. Modification of this limitation in any year may be approved in writing by the authorized officer.

[c] No surface occupancy will be allowed on that portion of the leasing within the following defined areas for the purpose of protecting wildlife habitat (for example, sage and sharp-tailed grouse strutting grounds). Modification of this limitation in any year may be approved in writing by the authorized officer.

CHAPTER 5

CONSULTATION AND COORDINATION

INTRODUCTION

The final EIS for the Proposed RMP was prepared by an interdisciplinary team of specialists from the BLM's Newcastle and Casper Field offices and the Wyoming State Office. Field and state office staffs also provided in-depth reviews for accuracy and consistency.

Preparation of the document began in 1989. Much of the research and inventory that produced data used in preparation of the various sections of the document and for analysis of actions was completed prior to the start of the planning process. Due to budget constraints the development of the draft EIS was postponed during fiscal year 1990 and resumed in fiscal year 1991.

Consultation, coordination, and public involvement on both draft documents have occurred throughout the planning process through scoping meetings, individual contacts, informal consultations, newspaper releases, and *Federal Register* notices. Documents contained in appendix M of the draft RMP EIS have not been reprinted in this document; however, new documents (for example, press releases) issued since April 8, 1997, have been reproduced in this final EIS.

PUBLIC PARTICIPATION

On April 24, 1998, the Environmental Protection Agency's Notice of Availability, announcing the availability of the second draft RMP was published in the *Federal Register*. By this notice, the 90-day comment period on the second draft RMP EIS began.

On April 27, 1998, we issued a press release to 58 media contacts and elected representatives informing them that the second draft RMP EIS was available for public review and comment.

On May 4, 1998, the BLM's Notice of Availability, announcing the availability of the second draft RMP EIS was published in the *Federal Register*.

On May 13, 1998, we issued a press release to 58 media contacts and elected representatives announcing three open houses/public meetings scheduled in Crook, Weston, and Niobrara counties June 8, 9, and 11, respectively, in order for the public to discuss and submit formal comments on the plan.

On June 3, 1998, we issued a press release similar to that above to the same 58 contacts reminding everyone of the open houses June 8, 9, and 11.

On June 5, 1998, we issued a press release to 58 media contacts and elected representatives announcing that the June 9 meeting to be held at the BLM's Newcastle office was changed to the First Security Bank building because of construction in the office.

On June 8, 9, and 11, 1998, we held open houses and public meetings in Sundance, Newcastle, and Lance Creek, respectively. The minutes from those meetings have been reproduced in this document with corresponding responses, where necessary.

On July 9, 1998, the BLM conducted a bus tour of the Lance Creek area. This tour was attended by people representing various state and county agencies, a special interest group, a Congressional representative, and two newspaper reporters. The purpose of the tour was to physically show public accessibility to BLM-administered public lands in the Lance Creek Area. BLM's paleontologist identified potential areas along the route where paleontology resources could occur.

CONSISTENCY

Requirements pertaining to consistency between BLM resource management plans and other planning efforts are described in federal regulations:

> . . . resource management plans . . . shall be consistent with officially approved or adopted resource related plans, and the policies and programs contained therein, of other Federal agencies, State and local governments and Indian tribes, so long as the . . . resource management plans are also consistent with the purposes, policies and programs of the Federal laws and regulations applicable to public lands, including Federal and State pollution control laws as implemented by applicable Federal and State air, water, noise, and other pollution standards or implementation plans. (43 CFR 1610.3-2)

Coordination with other agencies and consistency with their plans has been accomplished through continuous communication and cooperative efforts between us and involved federal, state, and local agencies and organizations.

The Wyoming Governor's Clearing House was supplied with copies of this final EIS for review by state agencies to ensure consistency with the state's ongoing plans. The state planning coordinator was notified of the state of development of the draft EIS and comments were received from several state agencies. Wyoming state government was also consulted during development of the second draft EIS.

The RMP team contacted county commissioners in Crook, Weston, and Niobrara counties to inform them of the development of the final EIS. Officials of the Black Hills National Forest, Thunder Basin National Grassland, and Devils Tower National Monument have been contacted, and planning procedures coordinated with their on-going plans and programs.

All incorporated municipalities in the three counties have been contacted to inform them of the development of the plan.

BLM offices in Buffalo and Mills, Wyoming, as well as Montana and South Dakota were also contacted to coordinate with their planning efforts since they adjoin the Newcastle planning area.

AGENCIES AND ORGANIZATIONS CONTACTED

Members of the planning team contacted numerous agencies and elected officials during development of the draft and final EIS documents. The following list is representative of the agencies and offices that indicated an interest in the Newcastle RMP and those that have been contacted during the planning process. This list is not inclusive; a complete list is on file at the Newcastle Field Office.

Federal Agencies

United States, Department of Agriculture
- Animal, Plant, Health Inspection Service
- Farm Service Agency
- Forest Service
- Natural Resources Conservation Service

United States, Department of Energy

United States Department of the Interior
- Bureau of Land Management (other states and Washington, DC)
- Bureau of Mines
- Bureau of Reclamation
- Fish and Wildlife Service
- Geological Survey
- National Park Service
- Office of Environmental Policy and Compliance
- Office of Surface Mining

United States Environmental Protection Agency
- EIS Filing Section, Washington, DC
- EIS Registration Section, Washington, DC and Denver, CO

Federal Elected Officials
- Office of Representative Barbara Cubin
- Office of Senator Mike Enzi
- Office of Senator Craig Thomas

State of Wyoming
- Association of Conservation Districts
- Board of Agriculture
- Department of Agriculture
- Department of Commerce
- Department of Energy
- Department of Transportation
- Farm Bureau Federation
- Game and Fish Department
- Geological Survey
- Office of Federal Land Policy
- Office of the Governor of Wyoming
- Oil and Gas Conservation Commission
- State Engineer's Office
- State Historic Preservation Office
- State Inspector of Mines

Local Government
- Chambers of Commerce – Lusk, Manville, Newcastle, Wright
- Conservation Districts – Devils Tower, Horse Creek, Natrona County
- County Commissioners – Crook, Niobrara, Weston
- Mayors – Lusk, Newcastle, Manville, Glendo, Sundance, Wright, Pine Haven
- Niobrara County Resources Association
- Tribal Governments and Native American Leaders

DISTRIBUTION

In addition to the agencies and offices listed above, notices, requests for comments, and copies of this document have been sent to businesses, organizations, interest groups, and individuals. Copies are available for review at the BLM offices in Casper, Cheyenne, and Newcastle and at the libraries of Crook, Niobrara, and Weston counties, among others.

The mailing list for this document is also available for review at the Newcastle Field Office.

PREPARERS OF THE DOCUMENT

ABBREVIATIONS: CFO = Casper Field Office (formerly Casper District Office); FOM = Field Office Manager (formerly District Office Manager); NFO = Newcastle Field Office (formerly Newcastle Resource Area); P&EC = Planning and Environmental Coordination; PRRA = (former) Platte River Resource Area; WSO = Wyoming State Office.

CONSULTATION AND COORDINATION

Name	Title and Office	Responsibility
Management Team		
Gary Johnson	Former Field Office Manager, NFO	Review and approval
Jim Murkin	Field Office Manager, CFO	Review and approval
Assistant FOMs, Administration, Lands and Renewable Resources, Minerals, and Operations, CFO		
Core Team		
Jack Hanson	Supervisory Petroleum Engineer, Team Leader, NFO	Minerals, plan development, technical coordination; team management
Patricia Hiller	Writer-Editor, CFO	Document format and organization; editorial management
Glen Nebeker	P&EC, CFO	Legal notices; environmental planning process, plan development, budget, technical coor-dination
Shelly Peele	Land Law Examiner, Fluid Minerals, NFO	Editorial review and coordination
Interdisciplinary Team		
Mike Brogan	Hydrologist, CFO	Hydrology, water quality
Laurie Bryant	Former Paleontologist, CFO	Paleontology resources
Bill Carson	Realty Specialist, NFO	Lands and realty
Fred Crockett	Geologist, CFO	Fluid minerals, geologic hazards
Sharon Dries	Former Geologist, NFO	Solid minerals
Karie Hilt	Staff Assistant, NFO	Word processing
Jim Johnson	Fire Management Specialist, CFO	Fire management
Gary Lebsack	Former Team Leader, NFO, Planning and Environmental Coordinator, Wildlife Biologist	Wildlife habitat, T&E plants and animals, ORV, VRM, recreation
Kathy Lehman	Range Management Specialist, NFO	Range management
Bill McNally	Former Economist, CFO	Socioeconomic conditions
Terry Matchett	Former Access Specialist, CFO	Access
Joe Meyer	Soil Scientist, CFO	Soils
Kate Padilla	Former Public Affairs Specialist, CFO	Public participation
Don Peterson	Former Range Conservationist, NFO	Range management, vegetation
Mike Riggleman	Forester, NFO	Forestry
Leslie Theiss	Former Geologist, CFO	Geology, solid minerals, paleontology
Alice Tratebas	Archeologist, NFO	Cultural resources
Support Staff, CFO and NFO		
Larry Apple	Former Wildlife Biologist, CFO	Wildlife habitat
Jude Carino	Former Archeologist, CFO	Cultural resources
Bruce Daughton	Former Range Conservationist, CFO	Range management

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Name	Title and Office	Responsibility
Support Staff, CFO and NFO (continued)		
Tom Durst	Geologist, CFO	Solid minerals
Willie Fitzgerald	Wildlife Biologist, PRRA	Wildlife habitat
Pat Moore	Former Realty Specialist, CFO	Lands and realty
George Ruebelmann	Former Archeologist, CFO	Cultural resources
Stephen Salzman	Former Petroleum Engineer, CFO	Fluid minerals
George Schoenfeld	Former Natural Resource Specialist, NFO	Surface protection: reclamation, weed control
State Office Support Staff		
Division of Lands and Renewable Resources (Branches 931, 932, 934)		Review
Division of Mineral Resources (Branches 923, 925)		Review
Division of Operations, Branch of Engineering Support Services (941), Technographics Section		Graphics
Division of Administration, Branch of Administrative Services (951)		Typesetting, layout, printing arrangements
Roy Allen Division of Resource Policy and Management (930)	Economist	Socioeconomics
Susan Caplan Division of Resource Policy and Management (930)	Range Management Specialist	Air quality
Joe Patti Division of Resource Policy and Management (930)	Natural Resource Specialist,	Review and guidance: field WSO coordination
Darla Pindell Mineral Program Operations Group (922)	Former Industry Economist	Socioeconomics
Mike Sestak Branch of Biological Sciences (932)	Former Physical Scientist	Air Quality

COORDINATION, SUPPORT, AND REVIEW

Coordination, support, and review were provided by the divisions of Lands and Renewable Resources, Operations, Minerals, and Administration, Casper Field Office; and the divisions of Minerals, Lands and Renewable Resources, and Operations of the Wyoming State Office, BLM. The Division of Administration, Branch of Administrative Services, was responsible for typesetting and printing arrangements.

COMMENTS AND RESPONSES

Introduction

We appreciate the time and effort everyone made in reviewing and preparing comments on the final EIS for the Proposed RMP. Both the written comments and the verbal comments presented at various meetings were useful in deciding what needed to be modified or changed to prepare the final EIS for the Proposed RMP. All comment letters were reviewed by both BLM managers and staff members. Table 5-1 contains an index of comment letters and hearing testimonies from public meetings held on the Newcastle draft EIS for the Proposed RMP.

Responses were written to comments if the comment related to inadequacies or inaccuracies in the analysis, methodologies used, or if they identified new impacts or recommended reasonable alternatives or mitigation measures. Although responses were not written for every comment each one was taken into consideration during the process of completing the final EIS for the Proposed RMP.

There are five major sections in this chapter:

(a) Comments received via e-mail. Where the letters were identical, only names and addresses appear after the letter. Where letters varied by a sentence or two, the entire letter has been reproduced. One response was give for all e-mail letters.

(b) Form letters received in the mail. Since the letters were identical, only names and addresses appear after the letter. Handwritten comments on the form letter were reproduced adjacent to the commentor's name.

(c) Form "green cards" received in the mail. Since these comment cards are identical, only names and addresses appear after the card. Handwritten comments on the card were reproduced adjacent to the commentor's name.

(d) Telephone conversations, and letters received in the mail, commenting on the revised draft RMP EIS and our responses to those comments.

(e) Transcripts from Crook, Weston, and Niobrara County public hearings.

TABLE 5-1
INDEX OF COMMENTS ON THE SECOND DRAFT EIS

	Comments Received by E-mail
	Form Letters Received in the Mail
	Form "Green Cards" Received in the Mail
	Cartwright Conversation
	Christinson Conversation
	Heumier Conversation
	Crook County Land Use Planning and Zoning Commission
Letter 1:	Beers, Norma (July 21, 1998)
Letter 2:	Crook County Land Use Planning and Zoning Commission (July 15, 1998)
Letter 3:	Crook County Land Use Planning and Zoning Commission (July 17, 1993)
Letter 4:	Hutchings, Sandra L.
Letter 5:	Niobrara County Commissioners
Letter 6:	Niobrara Resources Association
Letter 7:	Reed Ranch—Jeff and Danese Reed Danese
Letter 8:	Sierra Club
Letter 9:	Swanson, John R.
Letter 10:	Town of Hulett (July 15, 1998)
Letter 11:	Town of Hulett (July 16, 1998)

Letter 12: USDA, Animal and Plant Health Inspection Services
Letter 13: USDI, Geological Survey
Letter 14: USDI, National Park Service
Letter 15: US, Environmental Protection Agency
Letter 16: Wildlife Management Institute
Letter 17: Wyoming, Department of Agriculture
Letter 18: Wyoming, Division of Cultural Resources
Letter 19: Wyoming, Division of State Parks and Historic Sites
Letter 20: Wyoming, Game and Fish Department
Letter 21: Wyoming, Geological Survey
Letter 22: Wyoming, Office of Federal Land Policy
Letter 23: Wyoming, Public Service Commission

Transcript of Public Hearing, Crook County
Transcript of Public Hearing, Niobrara County
Transcript of Public Hearing, Weston County

Comments Received by E-mail

Dear Mr. Johnson,

I would like to express my concern over the Bureau of Land Management's decision not to recommend the Lance Creek fossil beds for Area of Critical Environmental Concern designation.

Lance Creek's fossil resources are known throughout the world as an important source for study and enlightenment in areas of Mesozoic paleontology and need special management protection. Please accept my recommendation that the Bureau of Land Management reconsider its decision and designate Lance Creek an Area of Critical Environmental Concern so that these fossil resources can be adequately protected.

Regards,

Michael Arnold 300 Allen Drive San Bruno, CA 94066

Kenneth Bacsc PO Box 43 Arvada, CO 80001

Karen Blenc 2618 Rochester Rd., Apt. R4 Royal Oak, MI 48073

Donald J. Cramer 133 Nymphenburgerstr Munich, GE 80636 Cathryn Cutler 489 Carolwood Lane Atlanta, GA 30342

Danicle M. Davies 6321 Peddington Land Centreville, VA 20120 Michele Dotson PO Box 346 Benton, KY 42025

Julie A. Dull 608 Willowgate Street Mountain View, CA 94043

Timothy Dunbar 250 Heimer Road, No. 610 San Antonio, TX 78232

Richard A. Emory PO Box 684 Ferndale, WA 98248

Scott Ferguson 4323-1 Avent Ferry Road Raliegh, NC 27606

Stephen Flick 1235 Shannon County Dr. St. Louis, MO 63125

Brad Flowers 235 Littleton, Apt. 1 West Lafayette, IN 47906

Audra Friend 2969 Mattern Avenue Pittsburgh, PA 15216

Todd M. Friez 590 Glenwood Way Butler, PA 16001

Liz Gensheimer PO Box 796005 Dallas, TX 75379-6005

Jay Gocel PO Box 862 Elmhurst, IL 60126

James Gregory 5157 Patriot Drive Stone Mountain, GA 30087

Kevin Hall 16134 NE 3rd Place Bellevue, WA 98008

Scott Harber 3871 Manor Street Philadelphia, PA 19128

Skip Harris 3309 Seymour Road Wichita Falls, TX 76309
Eugene M. Herman 10717 South La Porte Ave. Oak Lawn, IL 60453-5410
Marla Hoehn 1552 Timber Creek Drive San Jose, CA 95153
Kenneth E. Hyde 9 Hillsboro Road Clarksville, TN 37042
Patrick D. Kirby 1552 Timber Creek Drive San Jose, CA 95131
Christopher Kost 506 Citadel Drive Davis, CA 95616
Michelle Lods 1255 Barker Drive East Mobile, AL 36608
Audrey Longhurst 964 Savannah Falls Drive Weston, FL 33327
Jeff McGraw 1465 Evergreen Point Road Bellevue, WA 98804
Kim Miller 801 NE Ridgeview Drive Lee's Summit, MO 64086
Melissa Miller 3909 Bon Aire Monroe, LA 71203
Rob Miller 110 South Kennicott Arlington Heights, IL 60005
April Neimann 174 New Road Montague, NJ 07827
Kieu Nguyen 3382 Vincent Drive Santa Clara, CA 95051
David Nye 307 East 44th Street,#1110 New York, NY 10017
Steven Opitz 119 South Vermont Fullerton, CA 92833-2923
Andrew and Pat Panelli 12051 Mackinac Lockport, IL 10441
Jaclyn M. Pasquarelli 321 Seneca Avenue Middlesex, NJ 08846
Phillip J. Peluso 55 Prospect Place Belleville, NJ 07109
J. Kelley Pope 501 Riverfront Drive Bullhead City, AZ 86442
Aruna Reifman 1771 First Avenue, No. 4 New York, NY 10128
Kim Renninger 1140 Commonwealth Blvd. Reading, PA 19607
Barry Rich 6643 East Monte Vista Scottsdale, AZ
Jennifer A. Schwartz 80 Haven Avenue, Apt. 1D New York, NY 10032
Titus S. Seilheimer N207 Park Drive New Auburn, WI 54757
Ray Simmons 449 Mountain Meadows Rd Boulder, CO 80302
Daniel Snyder Berkley, CA
Lorraine Stanton 157 Rutledge Avenue Concord, NC 28025
Dr. N. Sukumar Chemistry Department, Marquette University Milwaukee, WI 53201-1881
Michael A. Temple PO Box 321 Holland, OH 43528
Teresa Tucker 2346 Garnett Street Arcata, CO 95521
Larissa Ulutas 316 Preston Lake Drive Tucker, GA 30084
Albert Verbyla PO Box 585 Lenoir, NC 28645
Michael Wagner 4046 East 130th Way Thornton, CO 80241
Chelsea Watson 206 Hart Drive Pittsburgh, PA 15235
Dana Westmoreland 547 33rd Street, No. B Oakland, CA 94609
Erin Nicole Wilson NJ

Dear Mr. Johnson.

I would like to express my concern over the Bureau of Land Management's decision not to recommend the Lance Creek fossil beds for Area of Critical Environmental Concern designation.

Lance Creek's fossil resources are known throughout the world as an important source for study and enlightenment in areas of Mesozoic paleontology and need special management protection. Please accept my recommendation that the Bureau of Land Management reconsider its decision and designate Lance Creek an Area of Critical Environmental Concern so that these fossil resources can be adequately protected.

Regards.

Gwen Ackley PO Box 122 Jefferson. MA 01522

n1xyzgwen@aol.com

Dear Mr. Johnson.

I want to express my deep concern over the Bureau of Land Management's decision not to recommend the Lance Creek fossil beds for Area of Critical Environmental Concern designation.

Lance Creek's fossil resources are of world renown and need special management protection. It is of crucial importance that we protect such an important site, for ourselves and for future generations.

I recommend that the Bureau of Land Management reconsider its decision and designate Lance Creek an Area of Critical Environmental Concern so that these fossil resources can be adequately protected. This is the duty of the BLM.

Sincerely,

Julie Barker 3046 Emerson St. Palo Alto. CA 94306

jbarker@california.com

Dear Mr. Johnson.

I want to express my deep concern over the Bureau of Land Management's decision not to recommend the Lance Creek fossil beds for Area of Critical Environmental Concern designation.

Lance Creek's fossil resources are of world renown and need special management protection. I recommend that the Bureau of Land Management reconsider its decision and designate Lance Creek an Area of Critical Environmental Concern so that these fossil resources can be adequately protected.

There is an enormous amount of information still to be gained from the Lance Creek fossil beds that will be a treasure to the people. Don't let this area become degradated.

Sincerely.

Luke Caldwell 5102 Mud Bay Rd. Olympia. WA 98502

Dear Mr. Johnson.

I want to express my deep concern over the Bureau of Land Management's decision not to recommend the Lance Creek fossil beds for Area of Critical Environmental Concern designation. Fossils are an important pre-historic resource and should be protected not only from development, but from those wishing to loot and sell these precious remains. Fossil theft is rampant in our country and cannot be stopped unless the level of awareness is raised.

Lance Creek's fossil resources are of world renown and need special management protection. I recommend that the Bureau of Land Management reconsider its decision and designate Lance Creek an Area of Critical Environmental Concern so that these fossil resources can be adequately protected. As an archaeologist and as a caver, I see the sickening results of looting all too often. Please re-think your stand on this issue and save this valuable resource for our children and their children to come.

Sincerely,

Donna Knoke Cobb 4666 Sandpiper Lane Birmingham, AL 35244-3301

dndcobb@bellsouth.net

Dear Mr. Johnson,

I want to express my deep concern over the Bureau of Land Management's decision not to recommend the Lance Creek fossil beds for Area of Critical Environmental Concern designation.

Lance Creek's fossil resources are of world renown and need special management protection. I recommend that the Bureau of Land Management reconsider its decision and designate Lance Creek an Area of Critical Environmental Concern so that these fossil resources can be adequately protected.

Time and again it can be proven that the long term benefits of tourism will out weigh the short term gains for a few, at the expense of the public. Please reconsider your decision.

Sincerely,

Wayne Killion 50 Hampshire Drive Chico, CA

Waysprey@msn.com

Dear Mr. Johnson,

I was sad to learn about the Bureau of Land Management's decision not to recommend the Lance Creek fossil beds for Area of Critical Environmental Concern designation. My purpose in writing is to express my concern for the preservation of fossil resources, Lance Creek's in particular, on behalf of myself and my 10-year old son, who has a keen interest in studying fossils.

Won't you please recommend that the Bureau of Land Management reconsider its decision and designate Lance Creek an Area of Critical Environmental Concern so that these fossil resources can be adequately protected.

Sincerely,

LaDonna M. Krafty 11000 62nd Avenue N. A-201 Seminole, FL 33772

KraftyL@bayfront.org

Dear Mr. Johnson,

I want to express my deep concern over the Bureau of Land Management's decision not to recommend the Lance Creek fossil beds for Area of Critical Environmental Concern designation.

Lance Creek's fossil resources are of world renown and need special management protection. Such fossil resources are unique, and the destruction of the beds will be irreversible. I recommend that the Bureau of Land Management reconsider its decision and designate Lance Creek an Area of Critical Environmental Concern so that these fossil resources can be adequately protected.

Sincerely,

W. Michael McShan, Ph.D. wmcshan@rex.uokhsc.edu
Dept. of Microbiology and Immunology (405)-271-1202
University of Oklahoma Health Sciences Center (405)-271-3117 FAX
BMSB 1053 940 S.L. Young Blvd. Oklahoma City, OK 73130

Sequence databases for Streptococcus pyogenes, Neisseria gonorrhoeae, and other genomes are available at the University of Oklahoma's Advanced Center for Genome Technology: http://www.genome.ou.edu/

==

Dear Mr. Johnson,

I want to express my deep concern over the Bureau of Land Management's decision not to recommend the Lance Creek fossil beds for Area of Critical Environmental Concern designation.

Lance Creek's fossil resources are of world renown and need special management protection. I recommend that the Bureau of Land Management reconsider its decision and designate Lance Creek an Area of Critical Environmental Concern so that these fossil resources can be adequately protected as an important link to our history and an area worth studying.

Sincerely,

Dusty Miller 11515 Hauser Overland Park, KS 66210

horses@sound.net

==

Mr. Johnson,

I want to express my concern over the Bureau of Land Management's decision not to recommend the Lance Creek fossil beds for Area of Critical Environmental Concern designation. I am a student at Appalachian State University, and I found out about this fateful outcome from the Sierra Club. I am disturbed especially because of my recent education in the field of geology. I realized this past year how amazing the history of the earth is and how insignificant humans really are to the whole scheme of things.

If Lance Creek is a sight of the largest collection of Mesozoic fossils in the world, then we have no choice but to preserve them so that we might know more about the earth and its past. Please suggest that the Bureau of Land Management reconsider its decision and designate Lance Creek an Area of Critical Environmental concern so the fossils can be adequately preserved. Thank you.

Sincerely,

Susan Mortenson

==

Dear BLM Representative,

I want to express my deep concern over the Bureau of Land Management's decision not to recommend the Lance Creek fossil beds for Area of Critical Environmental Concern designation.

Lance Creek needs special management protection and should be designated an ACED so that it's fossil resources are protected.

Sincerely,

Tammi J. Parsons 6986 County Road 8 NE Kandiyohi, MN 56251

organicartifacts@hotmail.com

==

Dear Mr. Johnson,

I would like to take an opportunity to express my concern about the Bureau of Land Management's decision not to recommend the Lance Creek fossil beds for Area of Critical Environmental Concern designation. These natural resources for education are renown and need special protection. It is my recommendation that the Bureau of Land Management reconsider its decision and designate Lance

Creek and Area of Critical Environmental Concern so this resource may be sufficiently protected. Fossil beds provide researches with unmeasurable historical data which is not available just anywhere. On this premise I wish you would seriously consider my request.

Sincerely,

Dennis R. Troy 435 Koser Avenue Iowa City, IA 52246

dennis-troy@uiowa.edu

4644 South Woodlake Lane Conyers GA 30013 May 21, 1998

Dear Sir:

I am currently 15 years old and in the tenth grade. I have future ambitions of becoming a paleontologist, but it disappoints me greatly to learn that I may never have the chance to visit the Lance Creek Fossil Beds. Please designate this site an Area of Critical Environmental Concern so it will be protected from gas and oil development.

Sincerely yours,

Dana Marie Van Ord

Response to the Above Letter

Thank you for your comments. The Lance Creek area has indeed produced important fossils, and continues to do so. But the first horned dinosaurs were collected in Montana in the 1850s. Nearly all the known vertebrate collections have been made from private, not public, lands. There is no indication that "fossil theft" is occurring on public lands in the Lance Creek area. BLM policy now includes procedures for evaluating and protecting fossils wherever they occur on public lands and is not limited to spacial management areas. The limited acreage, access difficulties, and absence of known vertebrate fossil localities make the public lands in the Lance Creek area unsuitable as an ACEC.

Form Letters Received in the Mail

Gary Johnson
Newcastle Area Manager
Bureau of Land Management
1101 Washington Blvd.
Newcastle, WY 82701

Dear Mr. Johnson:

I want to express my deep concern over the Bureau of Land Management's decision to change its recommendation and not designate the Lance Creek Fossil Beds an Area of Critical Environmental Concern (ACEC). This area is well deserving of this designation and needs special management protection. I would like to urge you to reconsider your decision before the Newcastle Resource Management Plan is finalized.

Lance Creek is one of the United States' most important fossil beds. The area produced the first horned dinosaur fossils and the first Cretaceous mammal fossils found in North America. At least a dozen internationally important museums contain extensive fossil collections from Lance Creek. Lance Creek contains some of the most highly fossilized deposits from the Mesozoic Age any where in the world. In 1973, the National Park Service recognized the importance of the Lance Creek area by designating the site a National Natural Landmark.

However, the National Natural Landmark is a designation which only recognizes the national importance of the area. It does not provide any protection. The BLM's method for protecting special

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areas like this is by using the ACEC designation. **In fact, every National Natural Landmark located on BLM land in the Rocky Mountain region other than Lance Creek has been designated an ACEC.**

Lance Creek is in particular need of special management protection because of the amount of fossil theft that has been occurring on our public lands. In addition gravel pits and other surface disturbances can destroy fossils.

The BLM realized the importance of Lance Creek in its draft management plan and recommended Lance Creek for ACEC designation. However, in the revised draft of the plan this recommendation was dropped. I, thus, urge you to reconsider your decision and designate Lance Creek an ACEC. Thank you.

Sincerely,

Unreadable
No. 6 Taxi Drive
Sheridan, WY 82801

Sandi Zier
867 Olympus Drive
Sheridan, WY 82801

Shelly Santin
150 South Linden No. 2
Sheridan, WY 82801

Laurie Smith
732 Illinois
Sheridan, WY 82801

Alan K. Guile
508 Cedar
Lander, WY 82520

Unreadable
4404 Bridle Drive
Ft. Collins, CO 80524

Laurence A. Durante
PO Box 6126
Sheridan, WY 82801

Mel Logan
460 West Loucks
Sheridan, WY 82801

Charles A. Eshelman
5311 Sagebrush Avenue
Cheyenne, WY 82009

Kathryn H. Penney
343 Trigood
Casper, WY 82609

Lois Logan
460 West Loucks
Sheridan, WY 82801

V. Moses
4523 Audubon
Billings, MT 59106

Tom Davis
2563 Hanway Avenue
Casper, WY 82604

Leroy Burgis
200 Wind River
Casper, WY 82609

Mary Sadler
2311 Lee Lane
Casper, WY 82604

Jeanette Bieber
4523 Audubon
Billings, MT 59106

Unreadable
185 Madison
Lander, WY 82520

Kirk Koepsel
939 South Main
Sheridan, WY 82801

Dan Coey
1101 Bretton Drive
Casper, WY

Pheobe Bollin
3950 Eagle Drive
Casper, WY 82604

Don Cook
518 South Washington
Casper, WY 82601

Mary W. Holis
645 South Nebraska
Casper, WY 82609

Lorna M. Wilkes
1305 Leopard Street
Sheridan, WY 82801

Dick Sadler
2311 Lee Lane
Casper, WY 82604

George Ruebelman
1305 Leopard Street
Sheridan, WY 82801

Comment written on letter: Gary: I supported this when I was on the District staff and I support it now. Please reconsider. Geo.

L.S. McGuire

2052 W. Basin Court
Wheatland, WY 82201

Vickie Goodwin

1906 Madora
Douglas, WY 82633

Unreadable

L&C Hall, Northwest College
231 West Sixth Street
Powell, WY 82433

Chelsea B. Kesselheim
22 Pheasant Run
Lander, WY 82520

Sissy Good
1906 Madora Avenue
Douglas, WY 82633

A. Donn Kesselheim
22 Pheasant Run
Lander, WY 82520

Pamela I. Rankin
PO Box 3449
Jackson, WY 83001

Ann M. Stephenson
880 North Fall Creek Road
Wilson, WY 83014

Mike F. Gierau
Box 2975
Jackson, WY 83001

Robb Reaull
PO Box 8487
Jackson, WY 83002

Chuck Rhea
PO Box 2104
Jackson, WY 83001

Steve Jones
PO Box 84
Jackson, WY 83001

Rita Lewis
PO Box 902-Becklake
Cody, WY 82414

Byrla L. Carson
1304 Odell
Thermopolis, WY 82443

Harry Locke
4304 17th Street SW
Calgary, Alb. Canada

Scott Anya
8120 Lakonia Drive
Anchorage, AK 99516

Comment written on letter: Please protect this beautiful area.

Mike Medberry
4632 First Avenue NE
Seattle, WA 98105

Comment written on letter: Please respond in writing to me about this request. Thanks!

Unreadable
Box 1082
Jackson, WY 83001

Miles Mathews
216 "F" Street
Cody, WY 82414

Mark E. Dowell
3930 Cynthia Drive
Casper, WY 82609

Mary Lou Morrison
845 East Third
Casper, WY 82609

Rep. Wende Barker
Minority Whip, WY Leg.
954 McCue No. 177
Laramie, WY 82072-6732

Timothy S. Tarses
PO Box 6284
Sheridan, WY 82801

Karen Walinsley
939 South Main Street
Sheridan, WY 82801

Unreadable
PO Box 584
Lander, WY 82520

Betsy Dower
3930 Cynthia Drive
Casper, WY 82609

Bill Arthur
14821 Ashworth Ave. N.
Seattle, WA 98133

Comment written on letter: This is an incredible place! Please save it.

Leslie Peterson
PO Box 568
Wilson, WY 83014

Jennifer Ferenstein
326 East Spruce
Missoula, MT 59802

Anne Mitchell
3349 NE Tillamook
Portland, OR 97212

Unreadable
1315 Hervey
Boise, ID 83705

John Leary
4679 Sunnside
Seattle, WA 98103

Larry Miklhoff
18 Taxi Drive
Sheridan, WY 82801

Kevin R Marsh
PO Box 345
Skykomish, WA 98288

Betsy Gaines
628 Fridley
Bozeman, MT 59815

Ed Fox
PO Box 29241
San Francisco, CA 94129

Unreadable
PO Box 331
15 Catherine Street
Lensdale, MA 01242

Unreadable
5040 SW Downsview Court
Portland, OR 97221

Brad Coelquiss
10529 Linden Avenue North
Seattle, WA 98133

Jack Robins
139 Stonewall Road
Berkeley, CA 94705

Brian Unreadable??
15619 SE 157th Street
Renton, WA 98058

Kenneth Gersten
23114 53rd Avenue SE
Bothell, WA 98021

Burt Koehler
Box 21106
Juneau, AK 99802

Peter Rinakos
802 Silverwood Place
Redlands, CA 92373

Katherine Johnson
13800 84th Street NE
Lake Stevens, WA 98258

Wes Henry
PO Box 4169
Leesburg, VA 20177

Comment written on letter: As a former BLM employee, I know this only too well. This is the right decision!

K. Willig
PO Box 693
Leavenworth, WA 98226

Marie Gelstrap
PO Box 51135
Seattle, WA 98115

Wendy Borgsen
2202 Mill
Bellingham, WA 98228

Ken Wilcox
3900 Fraser Street
Bellingham, WA 98226

Unreadable Fant
2028 NE 96th
Seattle, WA 98115

Michael J. Kellett
29 Academy Lane
Concord, WA 01742

Unreadable
2521 Gilbert Avenue
Missoula, MT 59802

Ted Mertig
348 Highley Circle
El Paso, TX 79927

J. Goodell
110 South Betz
Helena, MT 59601

Barry Beasley
4653 ??? Road
Columbia, SC

Ryan Hickey
PO Box 908
Joseph, OR 97846

Nicole Whittington-Evans
HC 4 Box 7019A
Palmer, AK 99645

Chris Burns
293 CR 130
Hesperus, CO 81326

Jennifer Lange
15015 Washington Avenue
Bainbridge Is., WA 98110

Joanne F. Wynon
5062 SW Jack Loop
Corvallis, OR 97333-1097

Jim Walters
11 Calle Targara
Santa Fe, NM 87505

Irene Vlach
4812 SW 47th Avenue
Portland, OR 97221

Tim Gould
1806 East 6th Street No. 2
Vancouver, WA 98661

Steven Hughes
49300 Middle Fork Road
North Bend, WA 98045

Nancy Shea
PO Box 68
Kelly, WY 83011

Lynn Cherry
PO Box 127
Thurmont, MD 21788

Timothy J. Coleman
Director, Kettle Range
2000 Conservation Group
PO Box 150
Republic, WA 99166
509-775-2667

Comment written on letter: Please protect Lance Ck. Fossil beds as an area of critical concern. I represent registered voters who support ACEC designation. T.J.

Julia Peita
2426 25th Avenue West
Seattle, WA 98199

Jenny R. Guse-Noritake
605 Prince Street
Alexandria, VA 22314

C.K. Klein
11541 Hartsook Street
North Hollywood, CA 91601

Peter Aengst
2021 Bayadene
???, CA 92625

Mike Shurgot
6536 31st Avenue NE
Seattle, WA 98115

Comment written on letter:
Please send me a written response.

David M. Braun
2321 North 57th Street
Seattle, WA 98103

Elizabeth Dickinson
1518 33rd Avenue
Seattle, WA 98122

Tom Golding
108 Southwestern Place
Sequin, 98382

Dick Schroder
1533 Monywood Street
Eugene, OR 97404

David C. Unreadable
19929 130 Avenue NE
Wooden Hills, WA 98072

Dwight Wilson
PO Box 425
Indianola, WA 98342

Kermit DeGeorge
Halifax NS, Canada

Bob Heim
PO Box 1803
Whitefish, MT 59937

Bob Eket
105 West Main Street, Ste. E
Bozeman, MT 59715

Michael Scott
120 Sourdough Ridge
Bozeman, MT 59715

Mark C. Rose
PO Box 12577
Salem, OR 97309

Robert Amon
Box 8968
Moscow, ID 83843

Gary Macfarlane
PO Box 8202
Moscow, ID 83843

Dana Unreadable
3 Charis Lanen
Missoula, MT 59802

Christine Shelton
PO Box 237
Oxford, MD 21654

Unreadable
1536 Wynkoop
Denver, CO 80303

Comment written on letter: P.S. At least an ACEC designation.

Carl Larson
3117 West Thurman
Seattle, WA 98199

L. McIntyre
PO Box 3181
Bozeman, MT 59772

Vera Lochern
2401 Arendel Road, No. 4
Mt. Rainer, MD 20710

Shirl Parsons
979 Woodland Ave. SE
Atlanta, GA 30316

John A. Gilroy
PO Box 180
Wallingford, VT 05773

Lloyd Fetterly
614 North 6th Street
Tacoma, WA 98403

Jim Stolt
PO Box 160477
Big Sky, MT 59716

Ken Kadlec
927 18th Avenue
Seattle, WA 98122-4704

Beth Fries
9051 East Sharwood Dr.#656
Mercer Island, WA 98040

Mary Crowe Mitchell
1108 West Pine Street
Sandpoint, ID 83864

Allen E. Smith
9835 Lonetree Drive
Anchorage, AK 99516

Judy Anderson
4134 Ocean View
Montrose, CA 91020

Chris Weller
8914 38th Avenue NE
Seattle, WA 98115

Lola McClintock
30543 State Highway 3 NE
Poubabo, WA 98370

Pete Kolbenschlag
220½ Gunnison
Grand Junction, CO 81501

Catherine Smith
3565 Rosalinde
Reno, NV 89503

Comment written on letter (formerly of Rapid City, SD and a frequent visitor to the Newcastle area.)

Phil Leatherman
1241 ???? Parkway
Bainbridge Is, WA 98110

Ron Unreadable?
PO Box 1048
Seattle, WA 98111

Unreadable
PO Box 333
Patagonia, AZ

Sharon N. Mulford
642 Surrey Road
Carbondale, CO 81623

Jon K. Mulford
642 Surrey Road
Carbondale, CO 81623

Alan Farr
650 West Bertana Street #6
Seattle, WA 98119

John Brinda
1327 Old Samish Road
Bellingham, WA 98226

Chris Eckley
805 East 5th Street, No. 203
Port Angeles, WA 98362

Katherine Newel
PO Box 8731
Missoula, MT 59807

George Nickas
Box 7362
Missoula, MT 59807

Maureen Corbas
1300 156th Street SE
Apt. B-104
Mill Creek, WA 98012

Toni Frohoff, Ph.D.
Wildlife Biologist
321 High School Road #374
Bainbridge Island, WA 98110

Anna Pedroso
330 West Olympic P
Apartment 204
Seattle, WA 98119

Becky Kelley
14037 26th Avenue NE
Seattle, WA 98125

Ed Fox
PO Box 29241
San Francisco, CA 94129

Dori Giles
1131 Jackson Street
Missoula, MT 59802

Richard Forrest
101 W. Olympic Place, #509
Seattle, WA 98119

Douglas Scott
24213 Roche Harbor Road
Friday Harbor, WA 98250

John Davis
Fndtn. of Deep Ecology
1555 Pacific
San Francisco, CA 94109

Celia Barotz
80 7th Avenue, No. 6
San Francisco, CA 94119

Tom Butler
PO Box 455
Richmond, VT 05477

Jack Humphrey
1315 Coal Avenue SE
Albuquerque, NM 87106

M.J. Griff
5E Eastway
Greenbelt, MD 20770

Roger Scholl
4870 Hilton Court
Reno, NV 89509

Roy D. Goodman
4614 Linden Avenue N
Seattle, WA 98103

David Sauer
PO Box 131
Crescent, OR 97733

Pamela Pride Eaton
1105 Ithaca Drive
Boulder, CO 80303

David Parsons
13127 130th Lane NE
Kirkland, WA 98034

Doug Bevington
1555 Pacific Avenue
San Francisco, CA 94109

Paul Satler, CWC
2655 Portage Bay E #5
Davis, CA 95610

Alan Carlton
715 Santa Ray Avenue
Oakland, CA 94610

Jeff Kessler
PO Box 397
Laramie, WY 82073

Eaton White
29607 4th Avenue S
Federal Way, WA 98003

Kelsie Wilson
PO Box 220
Cave Jct., OR 97523

Jim Jontz
Box 34
Silver Lake, IN 46982

Muggins Peters
2114 Colby
Everett, WA

W.A. Redding, Jr.
311 North Hancock No. 110
Madison, WI 53703

Lahsha Johnston
PO Box 6379
Boise, ID 83707

John Unreadable?
PO Box N
San Rafael, CA 94913

Dave Williams
15187 Highway 66
Ashland, OR 97520

Susan H. McCabe
23725 99th Avenue SW
Washa, WA 98070

Darrell Knuffke
2070 City Road 138
Interntnl. Falls, MN

James M. Young
1855 Boyer Avenue E
Seattle, WA 98112

Jennifer Clauahan
6328 4th Avenue NE
Seattle, WA 98115

Ryan Henson
CA Wilderness Coalition
PO Box 2346
Burney, CA 96013

Victoria N. Hoover
735 Geary Street No. 501
San Francisco, CA 94109

Barbara Spolter
33 Valley Road
Fairfax, CA 94930

Donald Parks
3127 181 Avenue NE
Redmond, WA 98052

Louise L. Wilcox
97 Sue Creek Road
Livingston, MT 59047

Agnes Baker-Pilgrim
369 Shan Creek Road
Grants Pass, OR 97527

B. Young
423 East 49th
Odessa, TX 79762

Unreadable? Boussard
6755 East Eagle Crest
Flagstaff, AZ 86004

William Chandler
4034 Old Hickory Road
Annandale, VA 22003

Marlyn Flanigan
2650 Tybo Avenue
Reno, NV 89512

Eric Christensen
2720 NW Johnson
Corvallis, OR 97330

Stephen Stoddard
PO Box 1718
Corvallis, OR 97339

Mandel M. Medenbach
2535 NW Taylor Avenue
56649Corvallis, OR 47330

Liz Howell
PO Box 280
Story, WY 82842

Liz McCoy
1872 South 1600 East
Salt Lake City, UT 84105

Mary Stenison
312 NW 199th Street
Shoreline, WA 98177

Heather Anderson, PhD
10721 N. Windham Bay Cir.
Fresno, CA 93720

Marty Marzinelli
1079 West Torrey Pines
Eagle, ID 83616

Teresa Tucker
2346 Garnett Street
Arcatia, CA 95521

Linda Serano
PO Box 220
Cave Jct., OR 97523

Tim Stevens
1102 West Reservoir
Livingston, MT 59047

Tim McCay
212 8th
Trinidad, CA 95570

Tom Herschelman
W 3238 Woodland Road
??? Falls, WI 53085

Albert Perez
PO Box 1404
Freeland, WA 98249

Fran Hunt
3842 Ogilvie Court
Lake Ridge, VA 22192

Rita Morbia
412-1 Nicholas Street
Ottawa, Ontario
Canada KIN7B7

David Orr
30 N Raymond Avenue #514
Pasadena, CA 91103

Laurie Macdonald
103 Wildwood Lane
St. Petersburg, FL 33705

Bruce Hamilton
1629 Curtis Street
Berkeley, CA 94702

Sally Brooks Meadows
1015 33rd Street NW #702
Washington, DC 20007

John Hart
PO Box N
San Rafael, CA 94913

Henry Egghart
7975 Rusty Road
Reno, NV 89511

Cindy Young
10810 Falk Road NE
Bainbridge Is., WA 98110

Kristin Replogle
715 South Broadway
Urbana, IL 61801

Carl Zichella
4105 Paunack Avenue
Madison, WI 53711

Comment written on letter: Please don't allow this special place to become hopelessly degraded. Our responsibility to future generations demands greater protection.

Susan E. Balikar
1112 SW 326th Place
Federal Way, WA 98023

Scott Rogers
1402 Eva Street
Austin, TX 78704

Lois Unreadable?
6093 Carriage House Way
Reno, NV 85209

Charles Raines
9004 20th NE
Seattle, WA 98115

Margo Earley
8820 Dog River Road
Mount Hood, OR 97041

Harry Roonberg
11538 17th Avenue NE
Seattle, WA 98125

Unreadable
1025 Vermont Ave. NW
No. 300
Atlanta, GA 30309

Unreadable
10810 Falk Road NE
Bainbridge Island, WA 98110

Sheryl L. Andrist
809 North 39th Street
Seattle, WA 98103

Kurt Wehbring
3333 NE 18
Portland, OR 97212

Comment written on letter: I have spent many summers in the Teton and the Wind River Range, so I am concerned about preserving natural resources in Wyoming.

Steve Marsden
PO Box 1846
Cave Jct., OR

Response to the Above Letters

Thank you for your comments. The Lance Creek area has indeed produced important fossils, and continues to do so. But the first horned dinosaurs were collected in Montana in the 1850s. Nearly all the known vertebrate collections have been made from private, not public, lands. There is no indication that "fossil theft" is occurring on public lands in the Lance Creek area. BLM policy now includes procedures for evaluating and protecting fossils wherever they occur on public lands and is not limited to special management areas. The limited acreage, access difficulties, and absence of known vertebrate fossil localities make the public lands in the Lance Creek area unsuitable as an ACEC.

Form "Green Cards" Received in the Mail

Dear Mr. Johnson,

I want to express my deep concern of the Bureau of Land Management's decision not recommend the Lance Creek fossil beds for Area of Critical Environmental Concern designation. This area is well deserving of this designation and needs special management protection. The BLM needs to reconsider its decision regarding Lance Creek.

Jack Goldstein 11150 S. Hoback Jct. Rd. Jackson, WY 83001	**Comment written on card**: This area needs to be protected from fossil theft and potential for coal, oil, gas, and gravel development. Why is it the only National Natural Landmark on BLM in the Rocky Mountain region that is not an ACEC?
Jean T. Miller General Delivery Dayton, WY 82836	**Comment written on card**: Lance Creek is a resource of world renown, and a National Natural Landmark: The latter needs to be upgraded for more protection.
Jamet Maxwell PO Box 7374 Sheridan, WY 82801	**Comment written on card**: Dear Sir, Lance Creek must designated an area of Critical Environmental Concern. The fossils must be protected at all costs. To not do so would be foolish.
Burgess 1407 Emerson Sheridan, WY 82801	**Comment written on card**: Please help protect this area.
Dr. Hal Wedel 802 South 12th Street Laramie, WY 82070-4630	**Comment written on card**: Please tell me sir, how are (as a responsible gov't. official) going to replace these fossil bed as they could gradually be destroyed unless protection is given? Thanks.
Phyllis Dugan 408 Dana, PO Box 1017 Thayne, WY 83127	**Comment written on card**: Please protect the special quality of Wy. I believe that industry and ecology can work side by side - if the protective rules are in place.
Edith L. Howard 2622 Central Avenue Cheyenne, WY	**Comment written on card**: I feel that it is important to protect the fossil reserves and feel also that the concerns about this area on the part of many people is reasonable. Your influence will be appreciated.
Julene Bain 505 South Cedar Laramie, WY 82072	**Comment written on card**: Please do revise your map to include these important public lands. They are a national treasure.
Peter Rider PO Box 225 Jackson, WY 83001	**Comment written on card**: These lands must be saved from distraction.
Red Velvet Swing Old Time Photos Robert K. Harger 36 East Broadway PO Box 2826 Jackson Hole, WY 83001	**Comment written on card**: In view of the shrinking habitat this area and its scientific importance deserves protection.
Jazmyn McDonald PO Box 1808 Lander, WY 82520	**Comment written on card**: As a weekend geologizer, I am eager to see us to [sic] all we can to preserve this area's special specimens.
Elise M. Prayzich PO Box 2852 Jackson, WY 83001	**Comment written on card**: I wonder about your reason for withholding designation. Is there a compelling reason for this? Thank you.

Betty Young
3437 Madison Drive
Rock Springs, WY 82901-4818

Comment written on card: I agree with this generic statement.

Erica Burns
PO Box 12713
Jackson, WY 83002

Leo Evertt Benson
PO Box 125
Bondurant, WY 82922

Carolyn S. Dejarikes
475 NW Ridge Road
Jackson, WY 83001

Richard & Debra Ludwick
111 Navajo Circle
Evanston, WY 82930

Shelly and John Ellis
PO Box 742
Encampment, WY 82325

Response to "Green Cards" Received in the Mail

Thank you for your comments. The Lance Creek area has produced important fossils and continues to do so. BLM policy includes procedures for evaluating and protecting fossils wherever they occur on public lands and is not limited to just special management areas. The limited acreage, access difficulties, and absence of known vertebrate fossil localities make the public lands in the Lance Creek area unsuitable as an ACEC.

Responses to Conversations and Comment Letters

Introduction

All the comment letters we received have been reproduced here in alphabetical order. Each letter is numbered, and comments within each letter are marked with lower-case letters. Corresponding BLM responses are adjacent to each letter. All original letters are on file at the Newcastle Field Office.

Response to Cartwright Conversation

a) Based on guidance from the Wyoming State office, and for the reasons given in this document, we feel a Class II designation is most appropriate for public lands in the area.

Response to Christinson Conversation

All land exchange proposals are evaluated when submitted. The number of actions that can be processed is limited by the budget funds allocated to the lands program. Because it is frequently inefficient to conduct small individual land exchanges, procedures for conducting assembled land exchanges have been developed. An assembled land exchange is an exchange where several different federal and/or nonfederal parcels are combined together and exchanged in one or more transactions over time. Please see appendix B for more information on assembled land exchanges.

Response to Heumier Conversation

a) BLM policy allows for the noncommercial collection of invertebrates and plants in reasonable amounts. Petrified wood may also be collected in limited amounts. No permit or other notification of BLM is required, but none of these materials may be traded or sold. Vertebrate fossil collection is managed through permits that are issued only to qualified paleontologists. Fossils collected under these permits remain the property of the federal government and cannot be traded or sold. They must be kept in a museum or other institution for study, teaching, or display. BLM welcomes the participation of all parties interested in developing ideas for a special management area in the Lance Creek area.

Response to Crook County Land Use Planning and Zoning Commission

a) Placing a "no surface occupancy" stipulation on oil and gas leases within 3 miles of Devils Tower National Monument would be a defacto withdrawal from oil and gas development. Because drilling depths to potential oil and gas producing horizons are only about 700 to 1,500 feet within 3 miles of the monument, directional drilling would be impractical in most cases. If directional drilling were practical, oil and gas impacts would be shifted from federal leases to state and private leases. The potential for oil and gas development within 3 miles of Devils Tower is low; therefore, it is unlikely that any wells will be drilled in the foreseeable future.

b) Based on guidance from the Wyoming State office, and for the reasons given in this document, we feel a Class II designation is most appropriate for public lands in the area.

Response to Letter 1

Thank you for your comments.

a) BLM welcomes the opportunity to work with anyone interested in identifying and establishing a special management area and/or interpretive materials.

Response to Letter 2

Thank you for your comments.

a) Based on guidance from the Wyoming State office, and for the reasons given in this document, we feel a Class II designation is most appropriate for public lands in the area.

Response to Letter 3

Thank you for your comments.

a) We do not have data to support the observation that plants are not as deep-rooted in prairie dog towns nor that prairie dog towns contribute to unstable soils.

b) The issue of disease threat to humans is to be determined by the Wyoming Department of Public Health and/or the Center for Disease Control, as described in the document.

Response to Letter 4

Thank you for your comments.

a) We have no evidence of "continued looting and desecration" currently going on. A single locality is known to have been collected illegally in the 1980s (*U.S. vs. Black Hills Institute, 1995*).

Response to Letter 5

Thank you for your comments.

a) Based on your comments, the data sources used in developing the tables you refer to on pages 98 and 99 of the draft document have been reexamined and revised accordingly.

In addition to checking the validity of the data sources used in the draft EIS, the state statistician and the Niobrara County Assessor were contacted to gather what information they have regarding agriculture and the oil and gas industry within the planning area. The Wyoming Oil and Gas Conservation Commission was also contacted to find out what other sources might be applicable in determining the importance of oil and gas production to this area. Based on the findings of this effort, this final EIS was adjusted accordingly.

Response to Letter 6

Thank you for your comments.

a) All land exchange proposals are evaluated when submitted. The number of actions that can be processed is limited by the budget funds allocated to the lands program. Because it is frequently inefficient to conduct small individual land exchanges, procedures for conducting assembled (consolidated) land exchanges has been developed. An assembled land exchange is an exchange where several different federal and/or nonfederal parcels are combined and exchanged in one or more transactions over time.

b) The idea of a small special management area is one that could be explored by interested parties and the BLM. We welcome the opportunity to work on this.

c) Based on your comments, the data sources used in developing the tables you refer to on pages 98 and 99 of the draft document have been reexamined and revised accordingly.

In addition to checking the validity of the data sources used in the draft EIS, the state statistician and the Niobrara County Assessor were contacted to gather what information they have regarding agriculture and the oil and gas industry within the planning area. The Wyoming Oil and Gas Conservation Commission was also contacted to find out what other sources might be applicable in determining the importance of oil and gas production to this area. Based on the findings of this effort, this final EIS was adjusted accordingly.

d) The areas referred to should be listed as *potential* threatened or endangered species habitat. These areas contain habitat characteristics required by species that are known to exist regionally or have historically existed in the area. Characteristics may include soil types, vegetation, occurrence of prey species in sufficient densities, among others.

Response to Letter 7

Thank you for your comments.

a) The areas referred to should be listed as *potential* threatened or endangered species habitat. These areas contain habitat characteristics required by species that are known to exist regionally or have historically existed in the area. Characteristics may include soil types, vegetation, occurrence of prey species in sufficient densities, among others.

b) The BLM did not specifically address weed control in the RMP; however, it is a fundamental part of healthy

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rangeland evaluations. Standard 4 mentions noxious weeds specifically as an indicator of whether or not the rangeland is capable of supporting a viable population of native species. Weeds are addressed as part of our monitoring program as well as the standards and guidelines evaluation.

Lessees of public lands are encouraged to notify this office of the occurrence of weeds on public lands. In terms of the agency's ability to control its weeds, that is a function of personnel and funding. At this point in time, it is unlikely that additional personnel will be added to address the weeds problem. There is no charge to the lessee for weed control measures carried out on public lands. Agreements with counties have been arranged in the past in an effort to handle some of the problem. The county actively takes over spraying federal land, for which the BLM pays. The county may also supply chemicals to the rancher, and the BLM will reimburse the county for the cost of the chemicals. The BLM would require that the county supply spray records and uses only those chemicals approved for use on federal lands. Any agreement with the county must be renewed yearly and is subject to available funds. The BLM has been active in releasing and maintaining biological controls. Biological controls have not been found for every noxious weed, nor are they very effective everywhere, but we are trying.

Another issue is that BLM is actually a very small landholder in much of Crook, Weston, and Niobrara counties. This broken land pattern makes it difficult to manage most of the problems we encounter, and weeds are no exception. Given the fact that many species of weeds seem to readily establish along waterways and then spread into the uplands, weeds tend to originate along private land and spread from there.

Response to Letter 8

Thank you for your comments.

a) The resources mentioned are protected by lease notice #1, which applies to all parcels, except FS parcels, offered for lease in the Newcastle area. Specific conditions and restrictions are attached to approved APDs. All the resources shown on Map H-1 are covered by lease notice #1.

b) The wildlife-related areas indicated do not require a "no surface occupancy" designation for adequate protection. It is the position of this office that existing stipulations as outlined in the document provide adequate protection.

c) The area referred to currently has limited motorized vehicle access. We do not feel additional restrictions on the limited access to this area would improve the quality of the hunting experience available to the general public.

d) We agree with the need for additional boundary marking. However, the area is currently available for foot travel, and we do not feel that demand at this time warrants constructing or establishing trails in this area.

e) Our current standard refers to existing roads and trails. This is interpreted to mean existing at the time the record of decision for this document is signed.

f) We have no documentation to support the comment that old growth is preferred by the public for recreational use.

g) Please refer to chapter 4, table 4-1, under Geology, the "Oil and Gas" section.

Response to Letter 9

Thank you for your comments.

a) As mandated in FLPMA, lands in the Newcastle area are managed for multiple use, which includes the species you mention, as well as others. In the case of special status species, habitat is managed according to provisions of the Endangered Species Act of 1973 and BLM manuals, among others.

b) All lands in the Newcastle area have been evaluated for wilderness status, and no lands were found to meet the criteria.

c) As discussed in appendix C, lands along the waterways you list were evaluated for their potential to be considered for inclusion in the wild and scenic rivers system. Some BLM-administered public land parcels along eight waterways in the review area were found to meet the wild and scenic rivers eligibility criteria. However, these BLM-administered public lands were not found to meet the wild and scenic rivers suitability factors and were dropped from further consideration.

Response to Letter 10

Thank you for your comments.

a) Based on guidance from the Wyoming State office, and for the reasons given in this document, we feel a Class II designation is most appropriate for public lands in the area.

Response to Letter 11

Thank you for your comments.

a) Based on guidance from the Wyoming State office, and for the reasons given in this document, we feel a Class II designation is most appropriate for public lands in the area.

Response to Letter 12

Thank you for your comments. (**Note**: The enclosure referred to in this letter is on file at the Newcastle Field Office.)

a) In this final EIS, we have made that change in chapter 1, under "Issue D: Control of Prairie Dogs on BLM-administered Public Lands."

b) Since there was a concern and an issue regarding control of prairie dogs, we are required to address it in our land use planning effort. We agree that a request for prairie dog control would require preparation of a separate NEPA analysis which calls for coordination with the grazing lessee and other interested parties, in addition to your agency, before any control could actually occur.

c) If wild animal attacks to humans were to occur on BLM-administered public lands, these attacks would be reported to the Wyoming Game and Fish Department.

d) Prairie dog towns are considered wildlife habitat. Predator control activity may not have any effect on wildlife habitat. However, prairie dog control could be habitat manipulation/modification for certain animals that rely on them for food (for example, black-footed ferrets, eagles, and hawks) Therefore, this discussion is appropriate. We intend to follow existing laws and procedures in addressing the need for prairie dog control. One of the criteria for approving a prairie dog control action is that unacceptable resource damage is occurring. These actions would be considered on a case-by-case basis.

We agree with your comment that the second lengthy paragraph is inappropriate in the "Wildlife Habitat Management" section, and predator control is probably not habitat management *per se*. The need for animal damage control is typically identified by the livestock operator. Therefore, if discussed, this matter would be better discussed in the "Livestock Grazing Management" section. Existing national, state, and local memoranda of understanding and animal damage control plans address the process and would apply.

Response to Letter 13

Thank you for your comments.

a) We agree and have deleted "Wasatch and."

b) The Act of March 3, 1891 (better known as the 1891 Mining Law) defines placer claims as "including all forms of deposits excepting veins of quartz, or other rock in place." In other words, every deposit, not located with a lode claim, should be appropriated by a placer location (Maley 1996).

c) This is a "generic" document; it is not a site-specific geologic report.

d) The first sentence under "Bentonite" reads, "In the planning area . . . bentonite mining areas, the northern Black Hills, or Colony Mining District, and the Clay Spur Mining District. . . ."

e) These changes have been made.

f) You can find this acronym in the "Abbreviations" list at the front of the revised draft document as well as this document.

g) The BLM does not promote development of any minerals.

h) We have made a reference here to Map 3-5 in this document.

i) This is a "generic" document; it is not a site-specific geologic report.

j) These changes have been made.

k) This is a "generic" document; it is not a site-specific geologic report.

l) This is a "generic" document; it is not a site-specific geologic report.

m) This is a "generic" document; it is not a site-specific geologic report.

n) These changes have been made.

o) This is a "generic" document; it is not a site-specific geologic report. These concerns would be addressed at the time of permitting, as stated under that section.

p) This is a "generic" document; it is not a site-specific geologic report.

q) This is a "generic" document; it is not a site-specific geologic report.

r) Data are mean values for the period of record through 1993 from *USGS Quality of Water: West 1 Surface 1993* (EarthInfo, Inc. 1993).

s) We agree the oil and gas plays summarized in Table I-1 should be updated, and maps would be more informative than information in tabular form. As a practical matter the plays were tabulated, and, although detail is lost, Table I-1 provides a summary of estimated future oil and gas reserves. The 1996 update by the USGS revised downward the undiscovered oil reserves for the plays listed in Table I-1 by 61%. The number of undiscovered oil and gas fields was revised downward by 35%.

t) The white unshaded area represents deposits that are not Tertiary in age.

Response to Letter 14

Thank you for your comments.

a) Our analysis of potential mineral development on public lands involved does not indicate that the viewshed is in imminent danger of modifications through development of federal minerals. We do not have the authority to regulate subdivision of private ranches.

b) Placing a "no surface occupancy" stipulation on oil and gas leases within 3 miles of Devils Tower National Monument would be a defacto withdrawal from oil and gas development. Because drilling depths to potential oil and gas producing horizons are only about 700 to 1,500 feet within 3 miles of the monument, directional drilling would be impractical in most cases. If directional drilling were practical, oil and gas impacts would be shifted from federal leases to state and private leases. The potential for oil and gas development within 3 miles of Devils Tower is low; therefore, it is unlikely that any wells will be drilled in the foreseeable future.

c) Based on guidance from the Wyoming State office, and for the reasons given in this document, we feel a Class II designation is most appropriate for public lands in the area.

d) Please see response "b" above.

Response to Letter 15

Thank you for your comments.

a) Many of the alternative management option statements that are presented as "Same as Preferred" are statements of standard operating procedure derived from existing law, regulation, or BLM policy. A resource management plan must be consistent with law, regulation, and policy; so, in a sense, it is not necessary for the EIS to reiterate those types of statements. However, we have found through experience that if some of these are not reiterated in the EIS, many people will assume that these requirements will be violated and will ask for reassurances that they will not be.

One example, is the Preferred Alternative paragraph for air quality on page 120 of the draft EIS, indicating that BLM would avoid violating Wyoming and national air quality standards. Making this statement is an appropriate form of repeating the obvious requirement for public disclosure.

There are also common sense management options that reflect the way existing policy should be carried out. For example, the planning team thought it was important to tell the public that "No land exchange may be completed without a determination that the public interest will be served according to 43 CFR 2200.06(b)" (page 179 of the draft EIS). Because this is a common sense approach and a regulatory requirement, it was not reasonable to suggest breaching the regulations in some of the alternatives; therefore, we repeated "Same as Preferred."

The draft EIS also identifies the "Alternatives and Management Options Considered But Eliminated From Detailed Analysis (pages 15 and 16). We point out that these things also contribute to the range of alternatives "considered," as required by NEPA.

The representative landownership pattern in the Newcastle resource management plan planning area is about 85% private and state, and 15% scattered BLM-administered public land parcels. Management of these scattered and isolated public land parcels is difficult because of their small size and inaccessibility. Because of these factors, the range of BLM-initiative management options and alternatives for the public lands in the planning area are extremely limited. We believe that attempting to describe options that are unrealistic or impossible to implement would only serve as straw-man scenarios and are "unreasonable" to address or analyze in detail. We believe the alternatives presented in the Draft EIS are a fair interpretation and comparison of an adequate range of reasonable alternatives for the BLM-administered public lands in the Newcastle planning area.

In making revisions to the draft EIS, we have looked for reasonable opportunities to increase the range of management options and have taken advantage of these when possible and appropriate. We believe the NEPA requirement for considering an adequate and reasonable range of alternatives has been satisfied.

b) The synergistic effect of the combined deposition of nitrate and sulfate could be represented by the acid neutralizing capacity (ANC) of sensitive lakes in the

Cloud Peak Wilderness Area. The Forest Service samples ANC and other parameters in Florence and Emerald Lakes as part of their long-term sampling program and recommends a 10% change in ANC as the level of acceptable change (LAC).

The closest class I areas are the Wind Cave National Park and Badlands National Park in South Dakota, and the Northern Cheyenne Indian Reservation in Montana. The Wind Cave and Badland National parks are about 50 and 100 miles east, respectively, of the Newcastle planning area, and the Northern Cheyenne Indian Reservation is about 100 miles northwest of the area.

The BLM does not have a complete emission inventory available for the Newcastle planning area, but we can estimate emission factors from various BLM-managed activities as indicated in the following table.

Activity/Pollutant		Emission Factor	
		value	units
Coal Leasing[1]	PM-10 (particulate matter with diameter less than 10 microns (micrometers)	30 - 100 1 - 3 1.5 - 15 .001 - .01	lb/year/acre disturbed lb/VMT (vehicle miles traveled) lb/blast lb/ton coal mined
	TSP (total suspended particles)	100 - 300	lb/year/acre disturbed
Oil & Gas Leasing[2]	SO2 (sulphur dioxide)	<0.1 <0.1	ton/year/well ton/year/12K HP (12,000 horsepower)
	TSP	<0.1 <0.1	ton/year/well ton/year/12K HP
	NOx (oxides of nitrogen)	.006 - .3 232	ton/year/well ton/year/12K HP
	PM-10	<0.1	ton/year/well
	VOC (volatile organic compounds)	20 - 25 12	ton/year/well ton/year/12K HP
	CO (carbon monoxide)	.02 - 1.1	ton/year/well
	HAPs (hazardous air pollutants)	1.8 - 15	ton/year/well
Prescribed Burning[3]	PM-10	.0052	ton/acre burned
	TSP	.0065	ton/acre burned

[1] Values taken from USDI, BLM 1992a.
[2] Values taken from USDI, BLM 1987.
[3] Values taken from Big Piney/La Barge CAP

Also, table 3-1 in chapter 3 shows that background concentrations are well within national and Wyoming standards. Background concentration of TSP is 42% of the standard, meaning that TSP concentration would have to more than double to exceed the standard.

c) Figure 3-1 in chapter 3 has been redrafted to show annual deposition of sulfate and nitrate, showing that deposition for all years is well below the LAC set by the US Forest Service.

d) The Black Hills area is close to the Newcastle planning area, but it is not classified as class I.

e) By order of the authorized officer, old oil and gas well sites are reclaimed to BLM or landowner specifications before the bond is released.

f) The Newcastle area is a mature oil and gas-producing area. Although development has occurred and will continue to occur, as shown in the following graph, the number of producing wells and oil production has been declining for several years. This decline is expected to generally continue over the analysis period for the document. To set an upper limit for either wells or oil production before significant environmental degradation occurs is probably not necessary since it is unlikely that either will attain the levels of 1986 through 1990.

g) All activities initiated by the by the BLM are required to comply with the state and federal regulations. Specific measures to ensure compliance are developed at the project planning level.

h) It is true that some types of development have the potential to impact local groundwater quality. Again, measures to ensure compliance with federal and state regulations and to mitigate any of these potential impacts are developed during specific project planning.

i) BLM's standard practice is to cooperate with local, state, and federal agencies/entities in managing and protecting natural resources (including water quality). It is outside of our staffing and budget capabilities to assist in all outside program activities, especially where BLM management activities are not specifically involved. All BLM-initiated activities are required to comply with state and federal regulations. Specific measures to ensure compliance (including the Clean Water Act and Wyoming's nonpoint source program) are developed at the project planning level.

j) We feel this document provides adequate information for the decisions to be made at the project planning level.

k) Critical habitat has not been identified in the Newcastle planning area. Mitigation of potential impacts to wildlife will be analyzed in site-specific environmental assessments when an action is proposed. Proper mitigation and monitoring will be identified and specified in the site-specific document.

Response to Letter 16

Thank you for your comments.

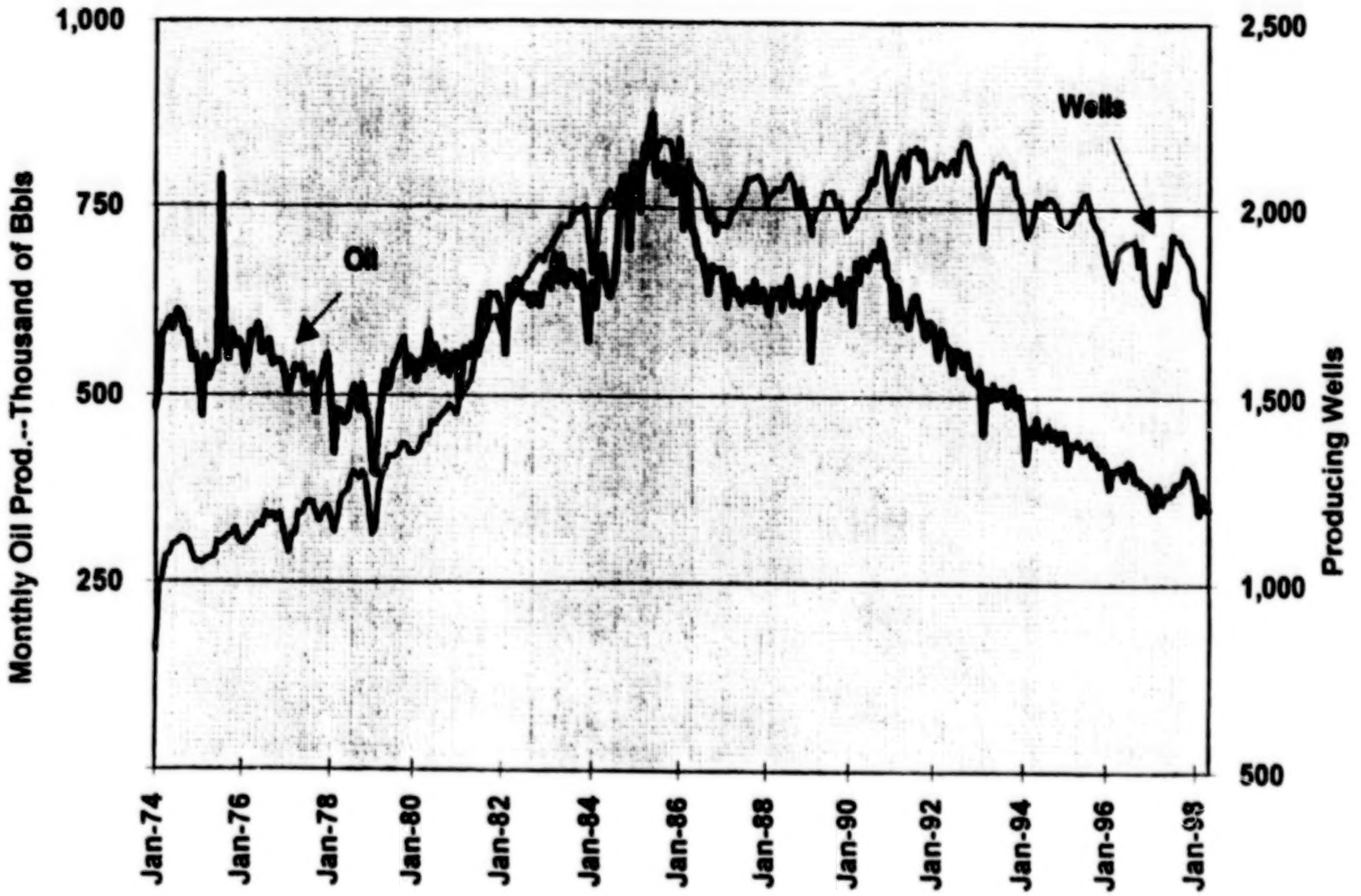
a) The data for the planning area has not significantly changed. Where applicable, newer data has been used (for example, oil and gas and socioeconomics).

b) These standards and guidelines are compatible with BLM's three-tiered land use planning process. The first tier includes laws, regulations, and policies governing BLM's administration and management of the public lands and their uses. The previously mentioned fundamentals of rangeland health specified in 43 CFR 4180.1, the requirement for BLM to develop these state (or regional) standards and guidelines, and the standards and guidelines themselves, are part of the first tier. Since standards and guidelines are policy, all land use decision alternatives expressed in the draft EIS for the Proposed RMP must be in conformance with or meet the standards. Implementation of grazing management must take into full consideration the guidelines, and this occurs in the third tier or activity planning stage. The activity planning phase uses the "I" and "M" categorization in setting priorities for standard conformance determinations and implementation of on-the-ground grazing management in accordance with the guidelines.

c) The Newcastle RMP is a complete revision of the current management framework plan. It is not an amendment; therefore, policy requires the revised document be in conformance with the standards and guidelines.

d) The guidelines you refer to will be addressed during "activity planning." It is at this stage of the planning process that a grazing management strategy is designed in accordance with the guidelines in making significant progress toward standard conformance or maintaining conformance. Applying the guidelines for grazing management are intended to provide good science for many resource values including vertical structure of grasses for ground-nesting birds.

Oil Production and Producing Wells--All Lands



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Response to Letter 17

Thank you for your comments.

a) All land exchange proposals are evaluated when submitted. The number of actions that can be processed is limited by the budget funds allocated to the lands program. Because it is frequently inefficient to conduct small individual land exchanges, procedures for conducting assembled land exchanges have been developed. An assembled land exchange is an exchange where several different federal and/or nonfederal parcels are combined together and exchanged in one or more transactions over time. Please see appendix B for more information on assembled land exchanges.

Response to Letter 18

Thank you for your comments.

a) As your letter notes, there are no significant changes in the cultural resources sections of the revised draft RMP. Because the additional cultural resource data collected over the past 10 years did not affect any decisions in the plan, updating the Class I overview was not necessary for completion of the RMP. After the RMP becomes final, the BLM is required to prepare a cultural resources management plan for the Newcastle Field Office. An updated literature review and analysis will be the first steps in developing that plan.

Response to Letter 19

Thank you for your comments.

a) The map you refer to is in the process of being updated. This area is also referenced on tables 1-1 and 3-7.

Response to Letter 20

Thank you for your comments.

a) BLM does not consider recreational shooting of prairie dogs as a control measure. It may be considered as part of a control project if the conditions for control are determined to be present and control is appropriate.

b) Penalties for disregarding vehicle travel restrictions can be found at:

43 CFR 8341.1(b) "Vehicle Operation Off Designated Areas and Trails" 43 CFR 8341.1(c) "Vehicle Operation in Closed Area" 43 CFR 8341.1(f)(4) "Vehicle Operation Causing Environmental Damage" 43 CFR 8364.1(d) "Violating a Closure or Restriction Order"

Any person who violates 43 CFR regulations "shall be fined no more than $1,000 or imprisoned no more than twelve months, or both." [FLPMA, 43 USC 1733(a)]. Generally, persons violating the above regulations are issued a violation notice, with the collateral bond amount ranging from $50 to $100.

Also, BLM's Instruction Memorandum WY-84-256, "Off-Road Vehicle (ORV) Designation, Signing Standards, and Guidelines" (USDI, BLM 1984) contains current guidance. It does not require written permit or approval for necessary tasks. It does define necessary tasks as "work requiring the use of a motor vehicle. Examples include picking up big game kills, repairing range improvements, managing livestock, mineral activities where surface disturbance does not total more than 5 acres as described in the '5-acre exemption' under the 43 CFR 3809 regulations, etc." This memorandum further states that the necessary tasks will be allowed "only if such travel does not result in resource damage." Resource damage, as defined in that same memorandum, is "leaving long term signs of vehicle use (ruts) or causing erosion or water pollution, creating undue degradation of other vegetative or wildlife resources."

c) Thank you for this information; we have updated this document accordingly.

d) Each time an application is submitted, the most current data is analyzed before the application is processed.

e) Because of the fragmented nature of forestlands in the Newcastle area, BLM determined that a management goal of 5% was the most appropriate.

Response to Letter 21

Thank you for your comments.

a) Where practical, some of the data you referenced has been updated for this final EIS document. Whether or not the most current, the data used still falls within the 15 year analysis period of the EIS, is adequate for purposes of the analysis, and does not result in any basis for changing any of the proposed RMP decisions. Be assured that activity planning and implementation actions that occur in the future, will utilize the most current data available.

b) The bentonite industry is always looking for new ways to use bentonite. Demands and needs go up and down in cycles. The demand for bentonite this year may not be the demand 10 years from now. It was not our goal in this document to state what industry is using bentonite for but to give an overview of some of the uses of bentonite. The bentonite industry is at a high right now, but it may go down in the future.

c) Almost all of the area in the Bear Lodge Mountains of the Black Hills is managed by the Forest Service. BLM does not address Forest Service lands where they manage the minerals.

d) Please see the updated "Socioeconomics" section.

e) The stratigraphic nomenclature chart used was also in a document printed in 1993 entitled *Geology of Wyoming*. It did state that some significant changes in stratigraphic nomenclature as depicted on this classic chart are presented on the 1993 stratigraphic chart showing Phanerozoic nomenclature for the state of Wyoming. This is a classic chart and was used for general purposes.

f) The term structure contour on the base of the Fall River formations was taken from the *Tectonic Map of the Black Hills Uplift, Montana, Wyoming, and South Dakota*. Compiled by Alvis L. Lisenbee, 1985. Map Series 13. Laramie, WY: Geological Survey.

Response to Letter 22

Thank you for your comments.

a) We welcome the opportunity to work with interested parties to identify and establish a small special management area.

Response to Letter 23

Thank you for your comments.

a) A right-of-way grant will include any stipulations that the authorized officer determines are necessary to mitigate environmental impacts identified in the NEPA process (conducting and documenting an environmental analysis). There is no BLM management objective to require the underground location of electrical utility facilities.

b) Right-of-way applications for oil and gas utility and pipeline facilities are subject to the same NEPA processes identified above. Under the Proposed RMP, there should not be any undue restrictions on pipeline and utility facilities necessary for the exploration and production of oil and natural gas.

c) When public lands are conveyed, the patents are issued subject to all valid existing rights, including rights-of-way. It is BLM policy to encourage a right-of-way holder and the potential new landowner to reach an independent agreement accommodating the authorized use before the patent is issued. When lands are acquired, reserved interests of the nonfederal landowner are subject to agreed-on covenants or conditions included in the conveyance documents.

d) The impacts of proposed new construction on existing facilities and pipelines are evaluated during the right-of-way application process (including the NEPA process). New right-of-way grants are issued subject to all valid existing rights, including rights-of-way.

e) Please see new appendix N. This is also addressed in specific burn plans.

f) The location and maintenance of rights-of-way in timbered areas is addressed during the right-of-way application process (including the NEPA process).

g) This is routine maintenance that BLM requires as part of the application process.

Responses to Public Hearing Concerns

Cook County (Sundance)

No responses necessary.

Niobrara County (Lance Creek Elementary School)

Page 16, lines 20-25; page 17, lines 1-2: The areas referred to should be listed as *potential* threatened or endangered species habitat. These areas contain habitat characteristics required by species that are known to exist regionally or have historically existed in the area. Characteristics may include soil types, vegetation, occurrence of prey species in sufficient densities, among others.

Page 18, lines 19-25; page 19, lines 1-21: The following table is reproduced from the original referred to by Mr. Dan Hanson and given to Mr. Gary Johnson.

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NIOBRARA COUNTY

	Total Gross Income in Millions	
Year	**Agriculture**	**Oil and Gas Industry**
1993	26.5	NA
1994	23.8	12. .2
1995	23.0	10.5
1996	21.8	11.8
1997	NA	14.0

SOURCE: Wyoming Ag Statistics
State Statistician - Richard Coulter
1-800-892-1660

Niobrara County Assessor - Elaine Griffith
307-334-3201

Weston County (Security First Bank, Newcastle)

Page 6, lines 17-24: If a search is determined to be necessary, it must be performed either by an authorized Bureau employee or an authorized contractor. Lists of approved contractors would be available from the BLM or the FWS.

Page 7, lines 24-25; page 8, lines 1-14: The Proposed RMP decision for restoration (rehabilitation) of burned areas does not preclude seeding or planting as part of restoration. Long-term loss of production of a site would be included in the definition of "resource damage." Our experience has been that burned areas recover quite well naturally in most situations. In areas of low annual precipitation, or during periods of drought conditions, reseeding efforts must be timed very carefully to ensure adequate ground moisture for germination and growth to be successful. Otherwise, the effort and expense are wasted.

Nothing in this Proposed RMP prevents an affected landowner or lessee from raising his/her concerns after a fire to the resource advisor or field office manager. These concerns would be taken into account when BLM is evaluating burned areas for rehabilitation or restoration needs.

In this regard, it is imperative that BLM be informed about fires that occur on BLM-administered public lands. Too often fires are suppressed by cooperators and not reported to BLM in a timely manner, or often times, not at all, delaying or preventing any chances at evaluation or restoration efforts.

Page 17, lines 10-17: The areas referred to should be listed as *potential* threatened or endangered species habitat. These areas contain habitat characteristics required by species that are known to exist regionally or have historically existed in the area. Characteristics may include soil types, vegetation, occurrence of prey species in sufficient densities, among others.

Page 18, lines 12-25; page 19, lines 1-25; page 20, lines 1-22: The areas referred to should be listed as *potential* threatened or endangered species habitat. These areas contain habitat characteristics required by species that are known to exist regionally or have historically existed in the area. Characteristics may include soil types, vegetation, occurrence of prey species in sufficient densities, among others.

Page 24, lines 2-11: The BLM is mandated by law to protect and preserve significant sites on federal surface or affected by federally funded or permitted actions. The Newcastle Field Office agrees that the Whoopup Canyon site is very fragile and that protection of this site is extremely important. The interim management plan for the site is based on the draft RMP and emphasizes protection of the site. These protection measures will be carried into the final site management plan. For the Whoopup Canyon site and other sites that are highly significant, the BLM will devise plans which will emphasize site protection and conservation. Such sites will not be exploited for other purposes in ways that would damage the resource. If information from these sites is used for public education, the education effort will be designed to avoid adverse impacts to the sites.

Telephone Conversation
Friday, April 24, 1998
Gary Johnson, BLM, and Chess Cartwright, Superintendent for the Devils Tower National Monument, National Park Service.

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He called and discussed his concerns about the fact that in the original RMP/EIS, we classified the BLM lands around the monument as VRM Class I and later we have now changed it to VRM Class II.

He said he would send formal comments about his views on the importance of classifying these lands as VRM Class I. He also wanted to discuss his views, which he did.

I told him I would get back with him in the next few weeks (3 weeks or so). I told him I would have Jack and Shelly with me in the discussion to provide some background, etc. about this issue.

I told him we would make the decisions after the comment period was over. He seemed to expect me to concur with him and change the decision (which has not yet been made). I explained the planning process and the fact that this is a comment period.

Telephone Conversation
Thursday, July 23, 1998
Jack Hanson, BLM, and Don Christinson, Assistant to the Director for Planning, Wyoming Department of Agriculture

Don called Thursday, July 23, 1998, to discuss issues specific to the RMP. He had four areas of concern:

1. He was in agreement with the Preferred Alternative on ACEC in the Lance Creek area. Specifically with management of small isolated tracks with little to no public access.

2. He had concern with Agricultural Economics and how it was represented in the RMP. He felt that more significance contribution should be placed on Ag Economics.

3. He is in support of Land Exchanges, as proposed. To block up portions of public land for educational purposes, in the instance of Lance Creek and recreational uses.

4. He was in support of BLM's outreach effort to inform the public on issues contained in the draft RMP.

He stated he would follow up in writing the information discussed during the telephone conversation.

Telephone Conversation
Thursday, July 22, 1998
Jack Hanson, BLM, and Mrs. Robert Heumier, 2402 East "E", Torrington, WY 82240, (307) 532-2351.

On Wednesday, July 22, 1998, Mrs. Robert Heumier called concerning issue's about the draft RMP.

Her first concern was that her local library did not carry the Federal Register and did not know about the comment period for the RMP.

a

She is an amateur rock collector and is interested in collecting fossils and other rock particles. She is opposed to "BLM stopping amateurs from collecting fossils and other rock". She would like to see BLM encourage rock collecting on public land and is interested in how to get a license to collect.

She endorses a visitor center similar to the one at Hot Springs, South Dakota for fossils. She is in agreement with the purchase of an area within the Lance Creek area for paleontology education.

She is trying to get a museum started and would like some help along these lines.

Conversation July 13, 1998 between Gary Johnson, BLM, and members of the Crook County Land Use Planning and Zoning Commission (hereinafter referred to as the Commission)

While attending a meeting with the Commission on July 13, 1998, I brought up the fact that Mr. Chass Cartwright, Superintendent of the Devils Towner National Monument, National Park Service, had expressed concern with our change of designation in the second draft of the EIS/RMP for the area of BLM lands surrounding Devils Tower from a visual resources management (VRM) Class I to a Class II.

a I explained Chass' concerns about potential mineral development and its potential to destroy the viewshed for the approximately 500,000 visitors per year at the park. He expressed his desire for us to attach "no surface occupancy" (NSO) stipulations on any parcels lease for oil and gas development. I pointed out that there is very little liklehood of development based on BLM< staff expertise and the history of mineral development in the area. Over the past 10 years, there has been very little interest and leasing.

The members of the Commission reached a consensus with the opinion that they are
concerned that if we change the Class II back to a Class I and institute NSO
stipulations on any oil and gas leasing, it would reduce potential royalties to the
county. Their concern was over potential economic loss of revenue. They asked to
b be put on the record as commenting as follows: *They would prefer a VRM Class III
designation; however, they would be willing to compromise with a Class II designation
as is now the Preferred Alternative of the draft RMP. They also did not want NSO
stipulations to be attached if and when oil and gas leasing occurs.*

I asked them to please put this in writing and send it to me. They agreed they would do this. If they don't, this note will serve as my effort in documenting their comments and opinions on this issue.

1

Box 132
Lingle WY 82223
7/21/98

Newcastle Resource Area
1101 Washington Blvd.
Newcastle, WY 82701-2972

Dear Sir:

Letty Heumier just called your office concerning the revised rules for BLM land. Your office sent her the proposals and had notification of proposed meetings. We saw nothing in the newspapers concerning them so I finally wrote the Cheyenne office. I wrote the letter on the 14th of July. Yesterday, July 22nd I finally received a reply. Neither of us saw a notification of these meetings in our paper, which is not surprising.

When the 1997 rules appeared in the Ferderal Register, we had no idea what they were as our librarian said she could not have a copy in the library. Why? I finally obtained the specifics and she ordered them for me and I had to pay for the copy. Is there a ruling that libraries cannot have a copy of the Register or is this an idiosyncracy of the library board or is this the policy of the BLM so that we are not to be aware of rules and changes?

We would not have been aware of the changes but for an article in or Torrington Telegram (enclosed) informing us of comment period but not the changes. A copy of an article by Alice Renner was sent to me and this was the first I was aware of the content of the changes (1997).

I am president of Wyoming State Gem and Mineral Society and our clubs depend upon me to let them know of changes that may concern rock hunting on BLM land so it was important that I find out.

As BLM land is our land--the people of Wyoming--I do not understand why we are not allowed to at least vote upon the proposed changes! I also do not understand why they are found only in the Federal Register. Most of us do not have a computer and I understand that the changes are available to anyone with computers. In our rock club in Torrington, only one member has a computer so the rest of us depend upon the media. Closing access roads and land swapping should be the concern of the puplic who use the land; we assumed that was the idea, originally, of BLM land.

a

Mrs. Heumier and I have discussed the apathy of Wyoming with its fossils. Our famous museums are proud to display our Wyoming fossils; are we? At least, a few of our new museums are doing so now.. What does our university in Laramie display? We allow almost all of them to go out of state or to foreign countries, yet, suddenly, there is great concern about them. When a new discovery is made, do we display it in one of our museums? Certainly not!!! We need a museum desperately, in Torrington for school children. It is low priority so it is doubtful that we ever do. Yet, BLM does not allow vertebrate hunting and it is a known fact that amateurs have discovered most of the major discoveries and reported them. Letty said she suggested a building over a discovery so th[illegible] and tourists could watch the process, much as the mammoth digs and Ash Fall. It seems that we need to get our priorities straight.

We would appreciate notification (to us) as well as to the Torrington Telegram about the new changes [illegible] are made. When I discovered the rules in process in 97, I immediately went to the

1–2

paper office to have her alert the public. She ignored it. I finally wrote a letter to the editor and she waited to publish it. She finally put an article in the Telegram. I was told that there was a meeeting in Torrington later which we knew nothing about.

Please see to it that there is notification by the BLM of changes and of meetings. We are tired of living in a limbo. Radio and television should also be informed.

I thank you so very much; we are interested, simply not informed!

Sincerely,

Norma Beers

1–3

BLM extends comment period

The Wyoming Congressional Delegation is pleased by the Bureau of Land Management's extension of the comment period on proposed changes to its law enforcement regulations by another 30 days.

Today's action extends the deadline for public comment on the issue from Feb. 5 until March 7, 1997. This follows on the heels of an earlier 30-day extension from Jan. 7 to Feb. 5.

The delegation said this is welcome news for those who wish to comment on and seek clarification of the agency's proposed plan.

Senators Craig Thomas and Mike Enzi and Rep. Barbara Cubin were concerned the BLM had not allotted enough time for adequate public comment on proposed changes and sought the extension.

"I appreciate the extension," Thomas said. "Clearly many people want the opportunity to further review the proposed rule and participate in the comment period. The decision gives us a chance to do that."

Cubin said she sent two letters to the BLM requesting a 60-day extension and asked the agency to explain the intent of the proposed changes in the law enforcement rules.

"While the Clinton Administration preaches the era of big government is over — it seems that particular sermon has not yet reached the BLM," said Cubin. "I believe these proposed rule changes could contradict the President's wishes by actually giving a federal agency additional law enforcement power that may not be authorized."

"I'm always concerned about the transition from law to regulation," Enzi said. "Hopefully the extension will give folks from Wyoming the necessary time to comment and the BLM will listen."

Those wishing to voice their opinions should send their comments to: BLM Administrative Record, Room 401 LS, 1849 C Street NW, Washington, D.C. 20240.

Your opinion

BLM tries to slip criminal rules by

Dear Editor:

The Bureau of Land Management Criminal Law Enforcement proposal was printed ONLY in the Federal Register (See proposed rules in a paid ad on Page 6).

[redacted]

We feel that there is a question of legality by BLM usurping authority of state and local government. When the Forest Service proposed similar rules, the public was successful in forcing them to withdraw their proposal.

Alice Renner, vice president
Meeteetse Multiple Use Association
Meeteetse, Wyo.

2

Crook County Land Use Planning and Zoning Commission
P.O. Box 37
Sundance, WY 82729

BUREAU OF LAND MANAGEMENT
NEWCASTLE RESOURCE AREA
98 JUL 17 AM 11:12

July 15, 1998

Bureau of Land Management
Newcastle Resource Area
1101 Washington Blvd
Newcastle, WY 82701

Attention Gary Johnson, Area Manager

Dear Gary

We appreciate the opportunity to comment on the Environmental Impact Statement for the Newcastle Resource Management Plan (Second Draft).

a In the Visual Resources portion of the proposed resource management plan, on page 109, the VRM Class designation for the area surrounding Devils Tower National Monument is discussed. We recommend that the area be designated a VRM Class III, although we could accept the VRM Class II designation that the draft plan proposes. We agree that a VRM Class I designation is neither necessary nor appropriate for the area surrounding the national monument.

The Commission recognizes that the draft plan is not much of a departure from present management activities, but does propose some minor changes for the Newcastle Resource Area. We do see a strong need for the direction and implementation of the proposed management plan to continue to provide for commodity interests, even where the standards and guidelines within the plan may appear vague.

We do not oppose the proposed plan as written.

We appreciate your willingness to attend our meetings to discuss the draft plan and look forward to continuing communications with you as the planning process evolves. Please keep us informed.

Sincerely,

Linda T
for
Anita Fish
Chair

3

Crook County Land Use Planning and Zoning Commission
P.O. Box 37
Sundance, WY 82729

July 17, 1998

Bureau of Land Management
Newcastle Resource Area
1101 Washington Blvd.
Newcastle, WY 82701

BUREAU OF LAND MANAGEMENT
NEWCASTLE RESOURCE AREA
98 JUL 21 AM 10: 15

Attention Gary Johnson, Area Manager

Dear Gary

We would like to submit this addition to our official comment, dated July 15, 1998, on the Environmental Impact Statement for the Newcastle Resource Management Plan (Second Draft).

The preferred alternative's proposal to implement only limited control on prairie dog populations on BLM-administered lands is an area of concern for this Commission. The plan states, "Control of the size of prairie dog towns on public lands would not occur unless resource damage were occurring or human health and safety were threatened."

a On our recent field tour of BLM grazing allotments in the county, it was noted that there seemed to be a lack of deep-rooted plants within the prairie dog towns we encountered. We are concerned that this deficiency may lead to unstable soils, an increase in the area's already high tendency to flash flooding and damage of the soil resources there. The plan does not specify what level of resource damage warrants subsequent control measures by the BLM.

b The spread of disease by prairie dogs is also a major concern, for the public and for private landowners in close proximity to the prairie dog towns located on public land. Again, it is unclear what level of human health and safety must be threatened before population reduction is deemed necessary.

Furthermore, this Commission is not convinced that disease and resource damage are the only two conditions under which prairie dog population control measures should be deemed appropriate. Other reasonable circumstances could develop that would necessitate some level of control. The plan does not provide for that possibility.

Thank you for this opportunity to comment further on the Draft Plan.

Sincerely,

Linda T
for

Anita Fish
Chair

4

June 23, 1998

From: Sandra L. Hutchings
P.O. Box 843
Teton Village, WY 83025

To: Gary Johnson
Newcastle Area Manager
1101 Washington Blvd.
Newcastle, WY 82701

Mr. Johnson;

I am writing to you concerning your decision to not recommend the Lance Creek fossil beds for an Area of Critical Environmental Concern. This delicate area is very deserving of this specific designation.

a Many of our nations' museums are graced by dinasaurs found in these fossil beds and far more information about our past may be lost if this area is not protected from the continued looting and desecration which is going on there right now.

Since the BLM originally realized the importance of the Lance Creek area in its draft management plan, and removed it due to a mistake of improper mapping procedures, it behooves your agency to once again recommend this area for ACEC and protect it from further damage.

You can change this situation and make it right Mr. Johnson. Please tell the BLM once again that the Lance Creek area needs to be designated an ACEC and its fossil resources protected.

Thank you for helping in this matter.

Sincerely,

Sandra L. Hutchings

Sandra L. Hutchings

5

NIOBRARA COUNTY COMMISSIONERS
COUNTY COURTHOUSE 402 SOUTH ELM
P.O. BOX 1238
LUSK, WYOMING 82225

DONNA I. RUFFING
RICHARD L. JAMES
THOMAS A. HAMILTON

Ph: 307/334-2211
Fax: 307/334-3013

July 21, 1998

Mr. Gary Johnson, Area Manager
Newcastle Resource Area
1101 Washington Blvd.
Newcastle, WY 82701

RE: Comments on Draft EIS for Newcastle Resource Management Plan (Second Draft), dated March 1998

Dear Gary:

These comments are in addition to comments previously made at the Lance Creek public hearing on June 11, 1998.

Enclosed please find Attachment A -- Lance Creek Fossil Area National Natural Landmark. This represents a progression of events and we, respectfully request, that it be included in the final document for future reference.

The Commissioners fully support your decision to reject the proposed ACEC designation for the Lance Creek Fossil area. The minute amount of federal land within this area, the inaccessibility and the inability to manage such a designation are the primary reasons for not declaring the area an ACEC. The ACEC designation is not a requirement to protect the paleontological resources when determining future "surface disturbing" activities.

a | Pages 98-99 need to be corrected to reflect the actual contribution agriculture makes to Niobrara County and the resource area. This information can be obtained from the Wyoming Department of Ag.

Sincerely,

Donna I. Ruffing
Donna I. Ruffing
Chairman

ATTACHMENT A

LANCE CREEK FOSSIL AREA
NATIONAL NATURAL LANDMARK (NNL)

THE FOLLOWING INFORMATION IS A SYNOPSIS OF THE HISTORY OF THE ABOVE-ENTITLED NNL:

05/04/66 – Site was nominated and determined "eligible". Representative Jim Thompson was contacted to secure landowners participation. Three hundred (300) square miles were in the original nomination.

10/05/66 – Thompson responds that landowners are not interested, nor will County Commissioners represent landowners in general.

09/00/72 – The "eligible" NNL was recommended for enlargement.

03/13/74 – The NNL was "enlarged" to present boundaries, i.e., between R65 & R66 on the west, between R62 & R63 on the east, between T35 & T36 on the south, and the Weston county line on the north. 351,360 acres

01/00/94 – Landowners and Commissioners became aware of NNL designation thru the Bureau of Land Management's draft Environmental Impact Statement/Resource Management Plan (EIS/RMP). The BLM proposed to designate the NNL boundaries as an Area of Critical Environmental Concern (ACEC). The BLM deleted the proposed designation after public comment.

Figures show:

Deeded land	280,080 acres	79.7%
Federal land	48,840 acres	13.9%
State land	22,440 acres	6.4%

BLM has access to only 15,120 acres; 33,720 acres are landlocked.

12/31/96 84 petitions of the 108 private landowners were sent to the National Park Service who refuses to act on their request to remove their land from the NNL designation.

6

Niobrara Resources Assn.
Box 64
Lance Creek, Wy 82222

Mr.Gary Johnson
Area Manager
Newcastle Resource Area
1101 Washington Boulevard
Newcastle,Wy 82701

Re: Consideration of a possible scientific and educational site to serve the interests of the United States Bureau of Land Management and the interested public.

Dear Mr. Johnson:

a The Niobrara Resources Assn. would suggest the consideration of a possible site in the Lance Creek Fossil Area to further the interests of the Bureau of Land Management and the general public. Such site should meet the following criteria:

1. Be of great scientific importance
2. Be easible manageable
3. Be readable accessible from an all-weather road
4. Have the potential for a field exhibit which would interest not only the scientific community but most importantly, the interested public
5. Have little or no impact on the surrounding private property owners

b We envision a site which would have scientific work in progress on permanent basis with a resultant display which could be viewed by educational groups including, but not limited to, schools and natural resource based organizations. Furthermore, the site could be a destination for individuals wishing to view a sample of the fossils present in the area.

During the course of the consideration and the accompanying dialogue, areas of concern could be addressed and creative reasoning could be brought to bear on present challenges.

a If a potential site for meeting the above goals is not presently in the federal inventory, we would suggest the consideration of a Consolidated Land Exchange to facilitate the transfer of such site.

James W. Kruse

James W. Kruse
President
Niobrara Resources Assn.

6-2

incorrect view of the economic area since it is based on sales subject to sales and use taxes and most agricultural sales are exempt. We strongly object to use of data which by its nature gives a warped view of the true situation. The following statistics were provided by State Statistician, Richard Coulter and Niobrara County Assessor, Elaine Griffith 307-334-3201.

NIOBRARA COUNTY

YEAR	Total gross income in millions	
	Agriculture	Oil and Gas Industry
1993	26.5	NA
1994	23.8	12.2
1995	23.0	10.5
1996	21.8	11.8
1997	NA	14.0

c Personal income pg. 98 and table 3-14 pg. 99 are obviously flawed. We request that updated and validated data be obtained from available sources. This RMP is valuable, not only as a planning tool, but also as a historical record, so utmost accuracy is paramount.

d Our second major area of contention is with map 3-19. Some of the maps indicate that they are applicable only to BLM administered surface. All such maps, especially this one should have that information on them. Secondly, the map is titled "Threatened or Endangered Species Habitat" while the actual map notation lists "Potential Threatened or Endangered Species Habitat Area". This is not consistent. What are we actually referring to? If this is really a "potential" habitat area, what differentiates it from like surrounding habitat? We would challenge this designation.

Niobrara Resources Assn. requests that the Niobrara County Commissioners synopsis of the history of the Lance Creek Fossil Area NNL be included with any discussion of the NNL.

In conclusion, we were pleased with the process which produced this document. It is just this cooperative effort which will save time and money and will produce a superior product.

James W. Kruse

James W. Kruse
President
Niobrara Resources Assn.

7

From: Danese Reed <lureed@coffey.com>
To: 'Gary Johnson' <wynrmp@wy.blm.gov>
Date: Thu, Jul 23, 1998 11:15 am
Subject: RMP Comments

July 19, 1998

Mr. Gary Johnson
Area Manager
Newcastle Resource Area
1101 Washington Blvd.
Newcastle, Wyoming 82701

Dear Mr. Johnson,

The Reed Ranch lies within one of the designated areas marked on Map 3-19.

Concern: Map 3-19 is not clear in presenting the fact that the proposed T and E applies only to the BLM and Split Estate land within the RMP. Map 3-19 also does not differentiate between BLM administered public land surface and any other land surface ownership, as it is now, it appears that all marked lands regardless of ownership are to be designated as proposed T and E. Map 3-19 then leads one to believe that these are the only areas within the RMP that may have the areas that need to be classified as potential T and E.

It seems that the T and E species is unwarranted by the designated areas in this map. All federal lands and split estate lands in this RMP should be treated the same. There is no proof that these species are more prevalent where it is designated on Map 3-19 than it is anywhere else. According to the RMP on page 116, it says these species; the black footed ferret, bald eagle, and peregrine falcon, may occur in the resource area. It also goes on to say that no confirmed sightings have been made of the black footed ferret in the last 10 years but some "unconfirmed sightings" have been made. This kind of evidence is laughable.

I don't agree that information based on unconfirmed reports should be used to base a decision that certain areas be listed as a potential endangered or threatened species area. It goes on to suggest that suitable habitat does exist for this species.

As for the bald eagle and peregrine falcon there is absolutely no reason to designate single areas on Map 3-19 for these two species. Throughout the resource area you could run into these species anywhere. There is just no basis for this proposal on Map 3-19. I would like to see your evidence that proposes otherwise.

This is an article from the Washington (AP), Endangered Species to be Reduced by 29. "Many species are in recovery and may soon be removed from the laws protection. The proposal to be unveiled by Interior Secretary, Bruce Babbitt, marks

7-2

the first time in the laws 25 year history that such a large number of species would be ear marked for removal from the endangered list. Babbitt is scheduled to trumpet the proposed removal of such species as the peregrine falcon and bald eagle." This is one more example of misinformation in Map 3-19. If that statement is true, there is no need to designate areas within this map for these species, as all areas within the RA, would be handled under the same guidelines as mentioned in the RMP under ESA.

a In conclusion, marked areas within the RMP Map 3-19 could possibly have severe financial and economic impact to landowners with lands that set inside these specific areas. I will reiterate that these marked areas are not necessary because according to guidelines outlined in the RMP all federal and split estate lands will be managed the same. I feel that financial hardships could be caused from future sales of any lands that are marked potential endangered habitat areas. Who would want to buy lands in an area such as that?! This map is misleading and should be re-evaluated and totally rejected.

b In addition to these comments, I would also like to state that noxious weed control need to be addressed and clarified to the position of the BLM management of such. It needs to be more precise in what procedures for BLM land leasees need to follow for the control of noxious weed. It also need to addressed if there would be any cost share approach to these problem weeds.

The subject of land consolidation has been mentioned for the need of an = acquisition by BLM to acquire a fossil pit as an alternative to ACEC. Reed Ranches would totally disagree to an alternative such as this as it would not be in the best interest of landowners who would have land in the immediate area. I think the BLM should stay with their position of no ACEC in this draft.

Thank You,

Reed Ranch
Jeff Reed

Receipt Requested!

8

SIERRA CLUB

NORTHERN GREAT PLAINS REGION

COLUMBUS BUILDING
23 NORTH SCOTT
SHERIDAN, WYOMING 82801

(307) 672-0425
Fax (307) 674-6187

June 3, 1998

Gary Johnson
Newcastle Area Manager
Bureau of Land Management
1101 Washington Blvd.
Newcastle, WY 82701

Dear Mr. Johnson,

The following are the Sierra Club's comments regarding the Newcastle Resource Management Plan:

Oil and Gas

a We have major concerns regarding the RMP's oil and gas leasing program. Table 2-1 (Page 25) states under the preferred alternative that "parcels would be leased with Wyoming standard oil and gas lease stipulations. This section fails to mention special protection stipulations or even cite Map H-1. Map H-1 shows four special stipulations that are needed in the Resource Area, but fails to map or identify the No Surface Occupancy stipulation called for in the Plan for Whoopup Canyon. It seems that Table 2-1, Map H-1, and the stipulations for Whoopup Canyon need to show some consistency. Table 2-1 should at a minimum reference the stipulations on Map H-1, and Map H-1 should include the NSO stipulation for Whoopup Canyon.

b The BLM also has failed to protect other important natural values with stipulations. The BLM needs to consider NSO stipulations for the following areas:

- -steep slopes and unstable soils
- -prairie dog towns
- -wooded draws and riparian areas
- -known cultural sites
- -ferruginous hawk nesting areas
- -1/4 mile buffer around developed and semideveloped recreation sites.

The oil and gas leasing section of the plan also fails to comply with NEPA because it does not provide a range of alternatives. All four of the alternatives are exactly the same.

"Not blind opposition to progress, but opposition to blind progress."

Recreation

c The quality of hunting on the public lands along the Little Missouri River is suffering because of uncontrolled motorized access in this area. Since this is virtually the only accessible public land in Deer and Antelope Hunt Area #1, the BLM needs to do more to improve the quality of the hunting experience. The BLM's proposal to put a primitive campground in this area is a good one, but better controls on access are also needed. The Little Missouri area would be a good place for nonmotorized access using a post to post trail system for hikers and horseback riders, because the current motorized use causes animals to flee the public lands during hunting season. Not only would the trails be used by hunters, but we think that the area would get recreational use throughout the year.

d Placing non-motorized trails in the area would also allow the BLM to cross state lands and open lands north of the North Fork of the Little Missouri River to public hunting. Placing trails across the North Fork would nearly double the accessible acres to the public. The BLM should look at acquiring easements across state school lands in this area to insure permanent access by recreationalists to the north side of river. The BLM also needs to mark boundaries in this area so that hunters know that they are staying on public lands.

e The BLM's Off Road Vehicle management need to be upgraded to the standard of designated roads and trails. This standard allows the BLM to better manage vehicle use and control problem situations quickly. By using the standard of existing roads and trails, the BLM must determine what are the existing roads and trails at the time of release of the plan, and then prevent future creation of new roads and trails. The designated road and trail standard allows public use only on roads and trails shown to be open on a BLM map.

f The Sierra Club supports the designation of the Stateline Special Recreation Management Area, but better controls on logging need to be implemented for the area. This area should be allowed to return to an old growth state. The recreation users would enjoy a forest with large yellowbark ponderosa pines much more than earlier successional stages, and the impacts associated with logging such as roads and skid trails would make this area less desirable for recreational use.

Areas of Critical Environmental Concern

We support the BLM's decision to retain Whoopup Canyon as an Area of Critical Environment Concern (ACEC). We, however, have major concerns regarding the BLM's recommendation on Lance Creek Fossil Beds. This area deserves ACEC designation and needs special management protection. You need to reconsider your decision in the final Newcastle Resource Management Plan.

8-3

Lance Creek is one of the United States' most important fossil beds. Lance Creek contains some of the most highly fossilized deposits from the Mesozoic Age any where in the world. The National Park Service has recognized the importance of the Lance Creek area by designating the site a National Natural Landmark. The BLM must also recognize this area's importance and need for special protection by making the area an ACEC. Lance Creek is the only National Natural Landmark located on BLM land in the Rocky Mountain region which has not been designated an ACEC.

g Lance Creek is in particular need of special management protection for two reasons. First, many federal lands have been subject to fossil theft. The Allosaurs site near Shell, Wyoming (which was designated an ACEC in January of 1995) and the controversy regarding the Tyrannosaurus Rex fossil in South Dakota come to mind as examples of where this problem has been brought to the public's attention. ACEC designation will red flag activities, particularly any fossil collecting in this area and help insure that the BLM has adequate resources to combat fossil theft. Secondly, mineral development could also have substantial impacts. A prohibition on coal leasing and restriction on gravel and scoria pit development are needed. According to Map H-1, a special stipulation regarding oil and gas development supposedly will be required for the Lance Creek area, but we did not find a discussion of what are the actual restrictions of the stipulation. Oil and gas development can destroy important fossil resources and must be done with care to insure that any oil and gas disturbance involves collection and inventory of the fossil resources at the site.

The BLM realized the importance of Lance Creek in its first draft management plan and recommended Lance Creek for ACEC designation. However, in the revised draft of the plan this recommendation was dropped. We urge you to reconsider your decision and designate Lance Creek an ACEC. We also feel that restrictions on mineral development must be extended to all publicly owned minerals in the National Natural Landmark.

We appreciate this opportunity to comment.

Sincerely yours,

Kirk Koepsel

Kirk Koepsel
Regional Representative

9

John R. Swanson
3400 Edmund Blvd.
Minneapolis, MN 55406

2[illegible] May 1998

Bureau of Land Management
1101 Washington Boulevard
Newcastle, Wyoming 82701.
Newcastle Resource Area

Dear Sirs:
Please accept my following comments concerning the Draft Environmental Impact Statement, Newcastle Resource Management Plan (Second Draft).

a

The Bureau of Land Management areas in the Newcastle Resource Area should be managed as Wildlife and Plant Habitat Preserves.
And to mandate Habitat Sanctuary Areas for the following species:
Northern Goshawk, Big Brown Bat, Townsend's Big-eared Bat, Pallid Bat, Black-Tailed Prairie Dog, Swift Fox, Lynx, Black-footed Ferret, Black Hills Redbelly Snake, Sturgeon Chub, Plains Topminnow.
Ute Ladies'-Tresses, [illegible] Bladderpod, and Alpine [illegible].

b

To designate Wilderness that contains 160 acres and more of Roadless Areas, so that we may save America's Heritage!

c

To designate the following streams as National Wild and Scenic River Areas:
West Beaver Creek, Black Tail Canyon Creek, Belle Fourche River, [illegible] Creek, Cold Springs Creek, Bear Run Creek, Whoopup Creek, Stockade Beaver Creek, and Sand Creek.
And to reserve all forest areas as Forest Preserves.

Retain all Public Lands
To acquire all Inholdings

Sincerely,

John R. Swanson

BEST COPY AVAILABLE

10

BUREAU OF LAND MANAGEMENT
NEWCASTLE RESOURCE AREA
98 JUL 20 PM 2:45

TOWN OF HULETT

BOX 278
HULETT, WYOMING 82720
PHONE: (307) 467-5771
FAX: (307) 467-5442
INTERNET ADDRESS: toh@trib.com

July 15, 1998

Mr. Gary Johnson, Area Manager
BLM - Newcastle Resource Area
1101 Washington Blvd.
Newcastle, WY 82701

Dear Mr. Johnson:

As an interested governmental entity, we wish to comment on a specific aspect of your Draft Environmental Impact Statement for the Newcastle Resource Management Plan (Second Draft).

On Page 109 of the Draft Plan, there is a section that specifically addresses visual resource classifications and the current proposals for classifying the area surrounding Devils Tower National Monument. By BLM's definition, a VRM Class I designation "applies to areas where the objective is to maintain a landscape setting that appears unaltered by man."

a We wish to go on record as strongly opposing the VRM Class I designation for the area surrounding Devils Tower, as it is not an appropriate classification for that area. We request that the area be designated a VRM Class IV area, though we could possibly accept a VRM Class III.

Thank you for this opportunity to comment on the proposed management plan.

Sincerely,

Winnie Bush

Winnie Bush
Mayor

11

BUREAU OF LAND MANAGEMENT
NEWCASTLE RESOURCE AREA
98 JUL 20 PM 12:45

TOWN OF HULETT

BOX 278
HULETT, WYOMING 82720
PHONE: (307) 467-5771
FAX: (307) 467-5442
INTERNET ADDRESS: toh@trib.com

July 16, 1998

Mr. Gary Johnson, Area Manager
BLM - Newcastle Resource Area
1101 Washington Blvd.
Newcastle, WY 82701

RE: Environmental Impact Statement for the Newcastle Resource Management Plan (Second Draft)

Dear Mr. Johnson:

We are concerned about the proposed VRM Class I designation for the area surrounding Devils Tower National Monument, which is mentioned in the Draft Plan.

a We fear that a VRM Class I designation would impose objectives that are too restrictive and could potentially adversely impact important developments in the area. We recommend a VRM Class IV to provide ample latitude for management of the 400 acres of public land surface and the 3,080 acres of federal mineral estate in question.

A VRM Class III is within the realm of acceptability. A VRM Class I, however, is not viewed by this board as an acceptable classification.

Please consider our concerns on this issue as you prepare to finalize the proposed resource management plan for the Newcastle Resource Area.

Sincerely,

Don Anderson

Don Anderson
President
Hulett Airport Advisory Board

12

USDA
United States
Department of
Agriculture

Animal and
Plant Health
Inspection
Service

Wildlife
Services

ADC Wyoming State Office
6731 W. Coal Road
P.O. Box 59
Casper, WY 82602

June 23, 1998

BUREAU OF LAND MANAGEMENT
NEWCASTLE RESOURCE AREA
98 JUN 25 AM 10: 23

Gary Johnson
Area Manager, Newcastle Resource Area
Bureau of Land Management
1101 Washington Boulevard
Newcastle, WY 82701

Dear Mr. Johnson:

I have been reviewing the second draft EIS for the RMP covering public lands in the Wyoming portion of the Newcastle Resource Area. I have a few comments concerning the wording therein regarding "Animal Damage Control".

a The NEPA document, Environmental Assessment for Predator Damage Management in Eastern Wyoming was completed this past winter by Wildlife Services, in cooperation with the Bureau of Land Management. It thoroughly addresses the Wildlife Services Predator Damage Management program in eastern Wyoming. I believe it would be appropriate for the BLM to reference that document in the EIS wherever needed. I am sending along a copy for your reference. Specific comments follow:

b **Page 11, Issue D, Prairie Dog Control**:

I question whether the language regarding APHIS control programs is necessary or appropriate here, because APHIS has not conducted operational prairie dog control in Wyoming for many years. If we were to do so on public lands, it would almost surely be at the request of BLM. Since prairie dog control is not addressed under our Predator Management EA's, a separate NEPA document would have to be prepared, either by BLM or WS, to cover such action. The language here doesn't address prairie dog control anyway, since it refers to our annual work plans.

Table 2-1:

Livestock Grazing Management Section: *"Animal damage control activities would be subject to established procedures and policies as outlined in the national and state level memoranda of understanding between BLM and APHIS and the animal damage control plan for the planning area."* I would suggest that "planning area" should read "Casper District" (this language already exists under Wildlife Habitat Management). Otherwise, I believe the language in this section is appropriate and to the point, and should be used throughout the document. It correlates well with language in the Environmental Assessment for Predator Damage Management in Eastern Wyoming.

212

12-2

c "*Human health and safety determinations would be made by the state of Wyoming, Department of Health or by officers of the US Center for Disease Control.*" I'm sure you are talking about disease threats here. However, would it be appropriate to consider something like a mountain lion attack on a human at a campground? While unlikely, this sort of thing has happened in other places, and would then be under authority of Wyoming Game & Fish.

d **Table 2-1.**
Wildlife Habitat Management Section: There are two sections of language under this heading referring to animal damage control activities. What is the purpose of discussing animal damage control in this section? Wildlife Services predator programs do not affect habitat in any way. If there is a reason for inclusion that I have overlooked, the language should be as discussed under "Livestock Grazing Management" above. The second lengthy paragraph used in the draft document beginning: "*Animal damage control activities would be considered on a case by case basis...*" is inappropriate.

Thank you for the opportunity to review this document. If I can answer any questions about the Wildlife Services program in Wyoming, please give me a call at (307) 261-5336, or write to the letterhead address. Please keep me on your mailing list.

Sincerely,

Richard H. Phillips

Richard H. Phillips
State Director

Enclosure

13

United States Department of the Interior

U.S. GEOLOGICAL SURVEY
Reston, Virginia 22092

In Reply Refer To:
Mail Stop 423

MEMORANDUM

JUL 20 1998

To: Gary Johnson, Area Manager

From: James F. Devine
Senior Advisor for Science Applications

Subject: Review of the Draft Environmental Impact Statement for the Newcastle Resource Management Plan, Wyoming

As requested in your correspondence dated February 25, 1998, the U.S. Geological Survey (USGS) has reviewed the subject draft environmental impact statement (EIS) and offers the following comments.

Page 70, second full paragraph, left column:

"The Black Hills were formed by the erosion of this dome-shaped uplift during Laramide time....": this sentence is somewhat misleading. The Black Hills were uplifted during Laramide time and the present topography is a result of erosion since that time. Citing a reference to a paper or map that provides a good general description of the geologic history of the Black Hills would be valuable here.

Page 70, second paragraph, right column:

"It (Hartville Hills) was formed by the erosion..." is also misleading for the same reason.

Page 71, first paragraph, left column:

a This paragraph in the Coal section indicates that only the lower Cretaceous Lakota and Fall River Formations in the study area contain 1-7 ft thick, uneconomic coal beds. The upper Cretaceous Lance Formation (type locality is in the Lance Creek) found in the southern part of the Newcastle Resource area (NRA) also contains coal beds from 1-2 m thick. This formation should be included even though these coal beds, like those of the Lakota and Fall River Formations, are not considered economical. The location of these coals should be included in Map 3-3. Further in the same paragraph is indicated that the production of high quality, low sulfur sub-bituminous coals is found in the center of the Powder River Basin and is contained in both the Wasatch and Fort Union Formations. These statements are not correct. Coals are produced only in the upper part (Tongue River Member) of the Fort Union Formation and mining occurs in the east-central, southern, and northwestern margins of the Powder River Basin.

b

Page 75, fourth full paragraph, left column:

"There are approximately 1,800 active placer mining claims in the NRA...."; it is unclear what you have defined as a "placer" mining claim. Are all locatable mineral claims--such as bentonite, uranium, gypsum--considered "placer claims?" If not, then 1,800 active placer mining claims seems to be very high.

c

Page 75, Bentonite Section:

The addition of a short description (one paragraph should suffice) that summarizes the character, origin and uses of bentonite, and includes a citation to a good general reference for the details would be helpful here.

d

Page 75, last sentence of left column:

"In the northern Black Hills mining district..."; this district is labeled as the "Colony Mining District" on your map (map 3-4). It would be helpful to refer to this district as the Colony District in your discussion here.

e

Page 75, fourth full paragraph, right column:

"Bentonite deposits in the resource area generally occur at or near the surface..."; this statement would be more accurate if modified to say that the deposits "generally" occur at depth, but "often" can crop out in the area.

f

Page 77, citation under Table 3-3:

"Source: WOSIM 1990"; it would be helpful for this acronym to be spelled out here.

g

Page 77, Gypsum Section:

Unlike the other minerals described in this report, you offer no suggestion regarding the potential for development or interest in the foreseeable future of gypsum. Are the gypsum beds near Rapid City thicker or closer to the surface? Is a gypsum processing infrastructure in-place at Rapid City, which is lacking here? Explain further why there is a lack of gypsum exploration and development in the Resource Area and why it is unlikely in the near future. Also, refer to Map 3-7 in this discussion.

13-3

h

Page 77, second paragraph of Uranium section:

A reference should be made to Map 3-5 in this paragraph.

i

Page 78, first full paragraph, left column:

When referring to production of uranium in this paragraph ("2.7 million pounds of uranium", "ore averaging 0.22% uranium"), you should be aware that these data actually refer to pounds of uranium oxide. There is a big difference between pounds of uranium and pounds of uranium oxide.

j

Page 78, second full paragraph of left column:

"All of the major mining districts in Crook County are located near paleontological stream channels..."; you mean to say "paleochannels" or "buried stream paleochannels," not fossil-hunting sites. Refer to the reference that describes the geology and origin of these deposits. Also, "Tertiary White River Formation" is actually "Tertiary White River Group."

In the paragraph that follows, "Fall River Formation" should be "Fall River Sandstone."

k

Page 78, last sentence, left column:

"...the amount of activity in uranium exploration cannot be expected to increase..."; this seems to be an overstatement. How about "is not likely to increase"?

l

Page 78; Metallic Minerals:

This entire section is far too brief, given the high potential for a variety of metals in these districts. Silver and copper are not mentioned, but are also highly anomalous here. I refer you to two USGS products by Ed DeWitt (303-236-5636), Anna Wilson, and others, which thoroughly discuss the resources of these districts and evaluates their potential.

m

Page 78, last paragraph in Metallic Minerals section:

"The original source of the gold is believed to be volcanic ash falls."; ash falls of what age and what formation?

n

Page 78; Salable Minerals, second paragraph:

"... and igneous and metamorphic rocks (granite)"; because granite is not a metamorphic rock, granitic gneiss would be a more precise term.

13-4

Page 81; Landslides:

o This discussion is insufficient to describe the landslide hazards of the area. For example: Are landslides active or inactive? What kind of slides? Deep or shallow? Caused by what? Seasonally active? Fast or slow moving?

Page 81, second full paragraph of right column:

p There should be information on how frequent and where these earthquakes are. Even though there are none above magnitude 5, there still needs to be comments about whether or not local geologic structures are seismogenic, how often the area is shaken by magnitude 3 and above, and what potential there is for earthquakes greater than magnitude 5. A map showing the distribution and magnitude of earthquakes would be a good idea.

Page 83-85, Figures 3-8 to 3-10:

q These maps have a limited use. Ancient slides that are now stable may pose no threat. There should be a distinction between landslides considered active or potentially active and those that are inactive. The landslide hazard may actually be greater in areas that are ready to fail adjacent to the mapped slides. Also, the kind of slides in the area need to be stated. For example, are they just minor translational slides that pose no threat, even when they slide, or are they rapid debris flows that are a major threat in every large thunderstorm?

Page 112, Table 3-21:

r First, it is not clear whether these data represent average or median data, or whether they were collected on a specific date. It would be useful if the table included the dates associated with the data. The EIS should identify and reference the sources of the data it presents. The USGS operates and maintains stations on Belle Fourche, below Moorcroft (06426500); Beaver Creek, near Newcastle (06394000); and Little Thunder Creek, near Hamshire (06375600). It also collects water quality data at stations 06426500 and 06375600. The report should include the USGS data and compare it with data from other sources. The Bureau of Land Management (BLM) should report where and when its data were collected for comparison with the USGS's collection stations and dates. A comparison of the values of data from different sources should support the conclusions drawn or the differences should be explained. There are a few BLM numbers higher than those of the USGS, but without BLM's sample dates, we cannot comment further.

Page 243, Appendix I:

s The oil and gas plays, summarized in Table 1-1, may need an update. These plays in the NRA were taken from the 1990 USGS publication (Open File Report 88-450, prepared by G.L. Dalton, J.E. Fox, and J.L. Clayton). The information on oil and gas plays from the 1996 USGS Digital Data Series DDS-30 (National Assessment of the U.S. Oil and Gas Resources - Results,

13–5

Methodology, and Supporting Data edited by Gautier and others) should be used instead. In addition, summarizing and synthesizing the oil and gas plays in a tabular form may be less informative than presenting them as maps. Maps can be obtained from the 1996 publication.

Page 345, Map 3-2; Geology:

t

What rock units are represented by the white (unshaded) areas on this map? Our recommendation is that all rock units be shown on the map, so that the reader can spatially view the pertinent units discussed in the "Locatable Minerals" discussion (p. 71). A reference to a geologic map that covers this area would also be helpful.

References containing relevant information follow:

DeWitt, Ed, Redden, J.A., Wilson, A.B., and Buscher, David, 1986, Mineral resource potential and geology of the Black Hills National Forest, South Dakota and Wyoming, with a section on salable commodities by J.S. Dersch, U.S.F.S.: U.S. Geological Survey Bulletin 1580, 135 p., 4 plates. [p. 74-75 are especially relevant.]

Wilson, A.B., and DeWitt, Ed, 1995. Maps showing metallic mineral districts and mines in the Black Hills, South Dakota and Wyoming: U.S. Geological Survey Miscellaneous Investigations Series Map I-2445, scale 1:100,000.

DeWitt, Ed. Redden, J.A., Buscher, David, and Wilson, A.B., 1989, Geologic map of the Black Hills area, South Dakota and Wyoming: U.S. Geological Survey Miscellaneous Investigations Series Map I-1910, scale 1:250,000.

Gautier, D. L., and others, eds, 1996, National assessment of the U. S. oil and gas resources - Results, methodology, and supporting data: U. S. Geological Survey Digital Data Series DDS-30.

Thank you for the opportunity to contribute to the Draft EIS of the Newcastle Resource Management Plan.

Copy To: Director, Office of Environmental Policy and Compliance
District Chief, Water Resources Division, Wyoming

14

United States Department of the Interior

NATIONAL PARK SERVICE
Devils Tower National Monument
P.O. Box 10
Devils Tower, Wyoming 82714-0010

IN REPLY REFER TO

BUREAU OF LAND MANAGEMENT
NEWCASTLE RESOURCE AREA

98 JUL -9 AM 10: 43

L7619

July 7, 1998

To: Area Manager, Newcastle Resource Area, Bureau of Land Management

From: Superintendent, Devils Tower National Monument

Subject: Review of Draft Environmental Impact Statement for the Newcastle Resource Management Plan

a After reviewing this draft document, Devils Tower National Monument has one primary concern, that being the development of leasable (oil and gas and coal), locatable, and salable minerals (sand and gravel) on Bureau of Land Management (BLM) administered lands (public and private surface) within 3 miles of our boundaries. The protection of the viewshed surrounding the park is critical if the National Park Service (NPS) is to continue providing visitors with a quality experience, especially one free of visual and auditory intrusions. Devils Tower National Monument, this country's first National Monument, is an extremely sensitive area, as it is one of the most heavily visited and congested small NPS units. The viewshed surrounding the park is in imminent danger of being modified either through development of federal minerals or sub-dividing of private ranches for home sites and commercial tourism related activities. We recommend that needed protection of our viewshed be accomplished by:

b

- Placing a No Surface Occupancy (NSO) designation on all federal mineral lands within 3 miles of the park. Preferably, this designation would be made within the context of the subject planning document as opposed to being placed as a protective stipulatior just prior to actual mineral leasing/development. We recommend this easier to implement NSO designation instead of a Withdrawal/ Closed classification.

C

- Placing a Visual Resource Management (VRM) Class I designation on all federal mineral lands within 3 miles of the park. Unfortunately, your office changed the designation of adjacent lands from VRM Class I to VRM Class II in this latest draft document, using the interpretation that a VRM Class I designation is only for established wilderness areas. However, your own rules state that VRM Class I also applies to extremely sensitive areas where the viewshed is in imminent danger of being adversely modified. Certainly, we have a strong case for maintaining that the park is an extremely sensitive area and that the viewshed is in imminent danger of being adversely modified.

Gary, I appreciate all the time and consideration you have given to our concerns. As a sister Department of the Interior agency, this kind of cooperation is essential if we are to be "good neighbors". Please do whatever you can to incorporate our concerns into your final Environmental Impact Statement for this Resource Management Plan. Understandably, a NSO designation is our first preference over a VRM Class I designation. Thank you in advance for your assistance.

Chas Cartwright

Chas Cartwright

15

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII
999 18th STREET - SUITE 500
DENVER, COLORADO 80202-2466

BUREAU OF LAND MANAGEMENT
NEWCASTLE RESOURCE AREA
98 JUL 27 AM 11: 08

Ref: 8EPR-EP

22

VIA FACSIMILE AND MAIL

Gary Johnson, Area Manager
Newcastle Resource Area
1011 Washington Boulevard
Newcastle, WY 82701

Re: Draft EIS, Newcastle RMP

Dear Mr. Johnson:

In accordance with our responsibilities under the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act (CAA), Region VIII of the Environmental Protection Agency (EPA) has reviewed the Draft Environmental Impact Statement (DEIS) for the Newcastle Resource Management Plan (RMP). Based on that review, EPA offers comments to be considered in the Final Environmental Impact Statement (FEIS).

The EPA review has identified a number of concerns with this DEIS and the adequacy of the analysis. Our concerns include the need for a clear definition of alternatives and the environmental consequences of each alternative for air quality, water quality and pollution prevention in the Newcastle Resource Area.

EPA's primary concern with this updated DEIS continues to focus on the need for clear definition of the range of alternatives for management of public lands in this Resource Area and the environmental consequences of each alternative including cumulative effects from other adjacent activities. The distinction between alternatives and the environmental consequences of implementation seems obscure in Chapter Two (Alternatives) and Chapter Four (Environmental Consequences). It appears that all the alternatives are very similar to the preferred alternative. We recommend that the BLM develop more distinctive alternatives in the FEIS. The environmental consequences section of an EIS should then discuss the specific environmental impacts of each alternative including the direct, indirect, and cumulative effects. This approach is intended to sharply define the issues and provide a clear choice for decision-makers. On page 119, it is indicated that the impact analysis is cumulative.

The blending of impacts and the presentation of environmental consequences in Chapter Four does not clearly inform the public and disclose anticipated effects

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15–2

of federal land management plans. As noted in 40 CFR 1500.1(c), " The NEPA process is intended to help public officials make decisions that are based on understanding of environmental consequences, and take actions that protect, restore, and enhance the environment".

Based on the procedures EPA uses to evaluate the potential effects of the proposed action and the adequacy of the information in the DEIS, the DEIS for the Newcastle Resource Management Plan will be listed in the Federal Register as category EC-2 (environmental concerns, insufficient information). This means that the review has identified environmental impacts that should be avoided in order to fully protect the environment. Also, the DEIS does not contain sufficient information to fully assess environmental impacts that should be avoided in order to fully protect the environment.

The enclosed detailed comments are the basis for the EC-2 rating and are a part of our review. These comments should be incorporated in the FEIS. We appreciate the opportunity to review and comment on the DEIS. If you have any questions, please contact Mike Strieby at (303) 312-6002.

Sincerely,

Cynthia Cody, Chief
NEPA Unit
Ecosystem Protection Program

Enclosure

cc: Mike Strieby
Elaine Suriano, EPA, HQ
Robert Edgar
Toney Ott
Kate Padilla, BLM/EPA

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII COMMENTS ON NEWCASTLE RMP DEIS
JULY 23, 1998

GENERAL

The RMP provides very little well defined criteria to guide site-specific decision making by federal land management. It is EPA's understanding the a resource management plan should "...guide and control future management actions and the development of subsequent, more detailed and limited plans for resources and uses". With the exception of indicating compliance with existing regulatory programs for air quality and water quality protection and the application of standards and guidelines (Appendix E, Surface Disturbance Mitigation, and Appendix F, Rangeland and Grazing), the RMP does not establish directions for the appropriate implementation or limitation of activities that could adversely impact the environment.

a The alternatives discussion in Chapter Two, Table 2-1, is inadequate for analyzing substantive differences. Typically, the information for Alternatives A, B, and C, states, "Same as Preferred Alternative". What parts of each of the alternatives were combined to create the Preferred Alternative? The FEIS should clearly define each of the alternatives and their respective environmental consequences. The Table appears to be a comparison of environmental impacts for each alternative. However, the Table is comparing different natural resource categories with respect to each alternative. What is really being proposed in the alternatives? Using the example of oil and gas wells, the DEIS does not appear to evaluate the difference in air quality using electric compressors/pumping stations rather than combustion engines? How many diesel or natural gas compressors could operate without causing violations of national ambient air quality standards?

The environmental consequences of proposed management actions are indicated to be cumulative (Chapter Four, page 119). This approach avoids comparison of alternatives on a scientific and analytic basis. NEPA requires that the direct, indirect, and cumulative impacts of proposed actions be fully disclosed to establish the level of significance of potential environmental impacts over the life of the plan. It should be noted that the "cumulative analysis" should include impacts of other activities in the area such as coal mining and coal bed methane recovery in adjacent Resource Management Areas. NEPA requires that cumulative effects be addressed as a summary of the individual effects of both the proposed action and any other reasonable foreseeable developments, including those generated by other entities and occurring on other ownerships. The cumulative effects analysis should summarize the specific impacts of past, present and future actions on the ecological resources, such as water quality, air quality, vegetation, and wildlife, etc.

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15–4

AFFECTED ENVIRONMENT

AIR QUALITY

b 1.Page 61. A potentially damaging deposition rate for sulfate and a rate for nitrate is stated. What would be considered potentially damaging for a combination of sulfate an nitrate? It is indicated that all BLM-administered lands in the Newcastle Resource Area are Class II under the Clean Air Act. What is the closest Class I Area? Are meteorological conditions and emission rates in the Resource Area likely to contribute to air quality degradation in adjacent areas?

c 2. Page 62. In Figure 3-1, what is the typical total annual deposition for sulfate and nitrate? Are any years exceeding levels "...potentially damaging to vegetation".

d 3. Page 64, last paragraph. With a projected predominate wind from west to southwest, could emissions from this Resource Area affect the Black Hills Class I Area? What is the nearest distance to the Black Hills?

OIL AND GAS

e 1. Page 71. The Newcastle Area has been the subject of significant oil and gas development activities. The RMP does not address the adequacy of reclamation or identify any plans for completion of reclamation on old oil and gas sites.

f As a guidance for future decision making on oil and gas development there is very little information in the RMP that would define the limit of development that could be acceptable before significant environmental degradation occurs or more stringent lease stipulation and/or conditions of approval are necessary. This is a key function of the RMP. Appendix H and Appendix I provide some information about past development and attempt to present an RFD. However, the basic conclusion after review of these appendices is that development has occurred and will continue and that any potential impact can be mitigated with existing BLM controls. BLM's Manual H-1624-1, Planning for Fluid Mineral Resources, recommends a procedure for projecting RFD and analyzing the direct, indirect and cumulative impacts of the development. The results of this analysis should be incorporate into the RMP/EIS. With the exception of several maps (I-1 and I-2), the public is not offered a reasonable insight into oil and gas development potential in the Resource Area and the potential environmental impacts to air quality, water quality and habitat fragmentation.

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15–5

WATER QUALITY

GROUND WATER

g 1. EPA continues to be concerned about the lack of clear direction in the RMP for ground water protection. Any activities on BLM land needs to comply with the State of Wyoming ground water regulations. Ground water in the Newcastle Resource Area is classified as Wyoming Class I ground water and protective standards are defined in Chapter VIII of the Wyoming Water Quality Rules and Regulations. The RMP should establish the measures necessary to insure compliance with the Wyoming GW program.

h 2. Some types of additional development in the Resource Area are likely to impact local ground water quality. EPA suggests that the RMP establish specific requirements for investigation of ground water resources and the recommended measures necessary for protection of the resource.

SURFACE WATER

i 1. With the exception of a brief discussion about surface water on page 111, and the inclusion of a map (3-15), the RMP fails to provide the necessary management guidance or directives to assist the Wyoming DEQ with the implementation of the Water Quality Standards and nonpoint source control program. The Newcastle Resource Area has a number of impaired waterbodies on the 1998 State of Wyoming 303 (d) list. Several of those impaired waterbodies(see Table A, State of Wyoming 1998 303 (d) list) require total maximum daily load (TMDL) analysis. EPA has provided specific guidance to the BLM State Office regarding the roles and responsibilities for federal agencies under the Clean Water Act. In general, Section 313 and Section 319, require federal agencies to comply with state water pollution control programs and insure that federal programs are consistent with the state's nonpoint source management program. EPA recommends that the specific provisions of the CWA be referenced in the RMP and that the BLM clearly establish the necessary activity restrictions, if any, to comply with the State's nonpoint source program.

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ENVIRONMENTAL CONSEQUENCES

j The goals of NEPA are to inform the public and disclose the anticipated effects of federal decision making on the environment. These goals are not met without disclosure of effects on the physical environment. In the Newcastle RMP, when physical effects are discussed, it is either generalized statements or uninterpreted data. This programmatic NEPA document or RMP needs to contain enough environmental information to allow the decision- maker to understand the impacts of the recommended management actions. Only then can the decision-maker select alternative based on full knowledge of the potential environmental impacts. The RMP/EIS for the Newcastle Resource Area fails to provide an adequate basis for decision making as required by NEPA.

POLLUTION PREVENTION

k EPA is concerned about comprehensive protection and preservation measures for indigenous plants and wildlife. Species-specific ecosystem requirements should be preserved and pollution prevention concepts for air quality and water quality should be established. These requirements and concepts should be documented in the RMP/EIS. EPA recommends that the RMP establish guidance to insure that critical habitat use patterns are addressed and protected in site-specific decision making. EPA expects that the RMP/EIS to specify guidance and direction for mitigation of potential impacts to wildlife and propose appropriate monitoring of those measures.

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Wildlife Management Institute

Len H. Carpenter, Field Representative
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ROLLIN D. SPARROWE
President
LONNIE L. WILLIAMSON
Vice-President
RICHARD E. McCABE
Secretary

May 20, 1998

Gary Johnson, Area Manager
Newcastle Resource Area, BLM
1101 Washington Boulevard,
Newcastle, WY 82701

Dear Mr. Johnson:

I am the Southwest Field Representative for the Wildlife Management Institute. The Institute is a private, nonprofit, scientific and educational organization founded in 1911 and dedicated to the restoration, conservation, and sound management of natural resources, especially wildlife, in North America. I have the following comments on the second draft EIS for the Resource Management Plan in the Newcastle Resource Area.

a

First some general observations. The range of Alternatives in the DEIS is very restricted. For most of the resources, management strategies for all alternatives are the same, including the do nothing alternative. I realize that authors primarily attempted to address the 4 planning issues identified in the Purpose and Need Section, but a larger range of management options should have been identified to help the reader evaluate alternatives and decide if the preferred alternative is truly the appropriate choice. Consideration should be given in the FEIS to developing wider ranging alternatives with more distinctive comparisons.

Secondly, most of the research and resource inventory that produced data for this document was done at the beginning of this process (1989)[see page 161 DEIS]. That was almost 10 years ago. How current is the information that the BLM used to generate the alternatives, including the preferred alternative? This is especially important with dynamic and changing environments involving decisions on such things as condition and trend of grazing allotments and status of wildlife habitats. The FEIS must address this issue and explain why 10-year old information is adequate for this planning initiative. If new information has been used, the FEIS must identify when and how that information was gathered.

Now for some specific concerns. Appendix F presents the recently adopted Standards for Healthy Rangelands and Guidelines for Livestock Grazing Management for Public Lands administered by

Washington, DC Office: 1101 14th Street, NW • Suite 801 • Washington, DC 20005 • Phone (202) 371-1808 • FAX (202) 408-5059

b the BLM in Wyoming. These standards and guidelines present specific criteria that will be met when permitting livestock grazing. Since livestock grazing is one of the major uses on public lands in the Newcastle Resource Area these guidelines must be used in land management decisions. On page 214 it is explained that these standards and guidelines provide for state-wide consistency and guidance in the preparation, amendment, and maintenance of BLM land use plans. Yet in the DEIS, there is no mention of the impact of the various alternatives on meeting these standards and guidelines. The DEIS should reference the number of "I" and "M" Category allotments and provide a reader indication of which allotments meet these standards and guidelines and how those guidelines provided guidance to the development of the preferred alternative.

c This is especially important for the allotments categorized as "I" or improve. I have reviewed all the Standards and Guidelines for the various states and most states have issued Plan amendments for Land Use Plans for implementation of the adopted Rangeland Health Standards and Guidelines. What is the status of Land Use Plan amendments for the Newcastle Resource Area? Shouldn't the amendment process be part of the current DEIS planning effort? The FEIS must address this concern.

Additionally, a review of Table 3-8 summarizing the various grazing allotments illustrates that 2/3 of the 60 allotments are under yearlong management. Yearlong management does not allow vegetative resources to recover from grazing and results in a downward trend in vegetative condition and trend. The BLM should be striving to reduce the number of allotments that are managed under yearlong treatment and implement either rotational grazing or seasonal deferred systems. The FEIS must provide direction in this regard to future allotment plans.

Ground nesting birds are in trouble in the grassland regions of North America. The vertical structure of grasses available for nesting (May-July) is severely reduced by livestock grazing. Grassland birds need residual vegetation from the previous growing season in which to hide their nests. Often the grass is grazed to a level that prevents successful nesting. This concern would apply to sharptail and sage grouse As a result, nests are often lost to abandonment or destruction by predators.

d On page 217, Guideline #1 states that "timing, duration, and levels of authorized grazing will ensure that adequate amounts of vegetative cover, including standing plant material and litter, remain after authorized use to support infiltration, maintain soil moisture storage, stabilize soils, allow the release of sufficient water to maintain system function, and to maintain subsurface soil conditions that support permeability rates and other processes appropriate to the site." Maintaining adequate residual cover after grazing in consideration of nesting bird habitat should be part of these grazing practices. The FEIS should acknowledge this relationship and provide direction on this important consideration of livestock grazing for future allotment management plans.

16-3

I appreciate the opportunity to comment. Please contact me if you have questions on any of my concerns.

Sincerely

Len H. Carpenter

Len H. Carpenter

cc:
R. Sparrow, WMI

wmi\let\newcaeis.wpd

17

Wyoming
Department of Agriculture
2219 Carey Ave., Cheyenne, WY 82002 ▮ Phone (307) 777-7321 ▮ FAX (307) 777-6593
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JIM GERINGER, GOVERNOR
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Del Tinsley
Worland
John Hester
Keeline
Alice Beasley
Evansville

July 23, 1998

Gary Johnson
Area Manager, Newcastle Resource Area
1101 Washington Boulevard
Newcastle, Wyoming 82701

Dear Mr Johnson

Following are our comments on the Draft Environmental Impact Statement of the Second Draft of the Newcastle Resource Management Plan from the BLM Newcastle Resource Area.

We would like to express our appreciation to the Newcastle RA officials for their efforts during the last four years to involve the public in the planning of this EIS. Their notices, meetings, and tours aided the awareness of objectives and concerns by both the public and BLM officials. These efforts increased the understanding of critical issues and resulted in sounder decisions that will benefit both the natural resources of the affected area and the people affected by those decisions. The success of these efforts reinforces the importance of federal officials working with ranchers, farmers, landowners, natural resource leaders, local government officials, and other affected publics to determine concerns and objectives before and during plan development. The success of this Second Draft EIS is a testimonial to the success of this collaborative process. We can not overemphasize the importance of this collaboration.

We definitely agree with the BLM to not declare the Lance Creek Fossil Area as an Area of Critical Environmental Concern. BLM officials are correct to note the minuscule number and size of federal parcels of land in this area relative to the large number and size of private lands, many of which landlock the federal parcels. We further agree with the absence of signage. We believe this decision is in the best interests of the fossils that need to be protected as well as the people who will be affected by these decisions. Given the small number and sizes of BLM parcels, we believe that BLM officials and landowners, working in concert with each other, can do far more to protect these fossils than whatever protection the ACEC designation would achieve. In fact, the ACEC designation and resulting publicity would do far more to harm these fossils than protect them.

a We believe strongly that the economic impact of agriculture for this area needs to be updated and better reflected in the final EIS. Statistics compiled by the Wyoming Agricultural Statistics Service show that total livestock and crop marketings in 1995 (the last year for which statistics are available) for the three counties affected by the Newcastle RMP equal over $64 million. This one-year total of $64 million is particularly significant for this rural area and reflects a far greater economic impact. Most, if not all, livestock and crops raised in this area are sold

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out of state. Thus, these sales import valuable out-of-state dollars into the local rural economies. Subsequent purchases of supplies, equipment, food, clothing, and other essentials by farmers and ranchers in the local area trigger a recurring turn-over of these out-of-state dollars in these rural communities. These essential and traditional sales and purchases would not be possible without public lands grazing on these allotments. The proposed Newcastle RMP has direct and vital effects upon the quality of life for agriculture producers and their families, and, thus, upon the economy and well-being of the communities in this area. Given the vital economic impact of agriculture and the turn-over of out-of-state dollars in the local economies that multiplies the $64 million in cash receipts several times, and given the relative dearth of other sources of significant revenues in this area, we believe strongly that these agricultural economic effects have far greater impact than reflected in the Draft EIS. This impact needs to be added to the EIS.

The recent tour of the Lance Creek surface management area graphically illustrated the need for an active and effective weed management plan for this area. Again, isolated parcels complicated weed control efforts. However, that problem points out the need for dedicated, coordinated efforts by local weed and pest district officials, BLM officials, and landowners to develop and implement an integrated weed control program for the Newcastle Resource Area. This program also deserves a very high priority.

a Finally, the plan appropriately notes the isolated and often landlocked parcels of BLM lands that are scattered in all too many areas of the Newcastle Resource Area. These isolated, landlocked parcels spotlight an overriding need for land exchanges to consolidate both these parcels and affected deeded lands. These exchanges can and should be made in the best interests of the natural resources and the management of those resources by BLM officials and landowners. We strongly recommend that land exchanges be given a very high priority and that this priority be reflected in the EIS. Fossils would be better protected, weeds would be better controlled, the public at large would be better served, and landowners and BLM officials alike could more efficiently manage their respective properties.

Summary. We compliment the Newcastle RA officials on their efforts to involve the public in the planning process and the resulting improvements in this RMP, which underscore the vital value of collaboration with affected publics by federal officials before and during the development of their plans. We unequivocally agree with the withdrawal of the ACEC status for the Lance Creek area. We strongly recommend that the EIS more accurately depict (1) the tremendous economic importance of agriculture in this predominantly rural area, (2) the need for a dedicated, coordinated weed management plan, and (3) a plan to facilitate land exchanges in the best interests of the resources, the public, BLM officials, and landowners.

Sincerely,

for Don Christiansen
Ron Micheli
Director

cc: State Clearing House

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DIVISION DIRECTOR
Karyl Denison Robb, Ph. D.

WYOMING

DIVISION OF CULTURAL RESOURCES

State Historic Preservation Office
Barrett Building
2301 Central Ave.
Cheyenne, WY 82002

(307) 777-7697
FAX (307) 777-6421

June 3, 1998

Wyoming State Clearinghouse
Office of Federal Land Policy ATTN: Julie Hamilton
Herschler Building., 3W
Cheyenne, WY 82002

RE: Newcastle Resource Management Plan, Second Draft Environmental Impact Statement (State ID No. 89-087); SHPO #1089RCM016

Dear Ms. Hamilton:

a Staff of the State Historic Preservation Office have reviewed the above referenced document as it pertains to cultural resources. We appreciate having the opportunity to comment. In our previous review of the first draft of the *Resource Management Plan/Environmental Impact Statement for Public Lands in the Newcastle Resource Area* (reference our letter of January 12, 1994) we stated that the Preferred Alternative presents a favorable management plan for the protection and preservation of archaeological and historic sites. It appears that there have been no significant changes in the revised draft that would alter our opinion. We note that under the description of Cultural Resources in the Affected Environment section of the document, the Description and Summary has not been updated to reflect more recent site information. The Class I overview dates to 1989 and is now nearly 10 years old. It would be beneficial to have more recent data available regarding the number of sites currently known and their eligibility status in order to compare the statistics. We wondered why this information was not updated in the second draft?

Thank you again for the opportunity to comment on the Newcastle Resource Management Plan. If you have any questions please do not hesitate to contact me or Judy Wolf, Deputy SHPO at 307-777-6311.

Sincerely,

John T. Keck

John T. Keck
State Historic Preservation Officer

THE STATE OF WYOMING
Jim Geringer, *Governor*

DEPARTMENT OF COMMERCE
Gene Bryan, *Director*

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DIRECTOR
Gary Thorson

WYOMING

DIVISION OF STATE PARKS & HISTORIC SITES

122 West 25th Street, Herschler Building, First Floor East, Cheyenne, WY 82002, (307) 777-6323, Fax: 777-6472

MEMORANDUM

TO: ***Wyoming State Clearinghouse***

FROM: ***Jeff Hauff, Planning & Grants Manager***

DATE: ***June 15, 1998***

SUBJECT: ***Newcastle Resource Management Plan, SIN#89-087***

COPIES: ***N/A***

a Lands involved with Keyhole State Park are administered by the U.S. Department of the Interior, Bureau of Reclamation, Dakotas Area Office and are managed for recreational use under agreement with the Wyoming Dept. Of Commerce, Division of State Parks & Historic Sites. The Surface Ownership Map included with the document should so indicate Bureau of Reclamation ownership of the Keyhole Reservoir area.

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WYOMING
GAME AND FISH DEPARTMENT

Jim Geringer, Governor
John Baughman, Director

June 18, 1998

WER 5837
Bureau of Land Management
Newcastle Resource Area
Draft Environmental Impact Statement
Newcastle Resource Management Plan, 2nd
Draft
SIN: 89-087

Wyoming State Clearinghouse
Office of Federal Land Policy
ATTN: Julie Hamilton
Herschler Building, 3SW
Cheyenne, WY 82002

Dear Ms. Hamilton:

The staff of the Wyoming Game and Fish Department has reviewed the 2nd Draft Environmental Impact Statement for the Newcastle Resource Management Plan, Newcastle Resource Area. We offer the following comments.

a

Prairie Dog Control: In Table 2-1, under both the Livestock Grazing Management and Wildlife Habitat Management Sections, there are statements relating to prairie dog control. One of these statements indicates prairie dog control will not be allowed on Bureau-administered lands unless the animals are causing resource damage or present a human health/safety hazard. A distinction needs to be made somewhere within the document between large scale control efforts and hunting/shooting. As currently read, the statement could potentially preclude sportsmen from hunting prairie dogs on Bureau-administered lands under the auspices that it represents a type of "control effort".

b

Off-Road Vehicles: Under the ORV Use and Designations section on page 96, the plan should mention potential penalties that may be incurred for disregarding off-road travel restrictions. In addition, the third paragraph states; 'Vehicle travel off existing roads and trails can be authorized to accomplish necessary tasks . . .' This statement should be clarified as to what constitutes a 'necessary task'. We suggest off-road restrictions would be more effective if 'necessary off-road travel' required a written permit or approval from the Bureau.

Big Game Population Figures: Table 3-23 on page 113 outlines several 1989 postseason population estimates and objectives for big game herd units included in the Resource

20-2

C

Area. Many of these figures have changed since 1989. Updated information is listed below:

Herd Unit	1996 Postseason Population	1996 Population Objective
ANTELOPE		
North Black Hills	10,277	14,000
South Black Hills	2,309	3,000
Thunder Basin	6,985	8,000
Lance Creek Antelope	26,016	27,000
MULE DEER		
Black Hills	21,592	20,000
Thunder Basin	17,201	13,000
Lance Creek Mule Deer	15,709	18,000
ELK		
Black Hills	unknown	500
Rawhide Elk	90-110	40
WHITE-TAILED DEER		
Black Hills	29,027	40,000
Thunder Basin WTD	unknown	1,750

Hunt Area/Herd Unit Boundaries: In addition to the population changes since 1989, several hunt area and herd unit boundaries have changed. These boundary changes render maps 3-12 and 3-18 obsolete. Specifically, elk areas 3, 116 and 117 on map 3-12 have changed. The new descriptions for the areas are as follows:

Elk area 3. Beginning at the intersection of U.S. Highway 20 and U.S. Highway 85 in the town of Lust; southerly along U.S. Highway 85 to U.S. Highway 26 at the town of Lingle; westerly along said highway to the North Platte River; northerly and westerly up said river to Interstate Highway 25; northerly along said Interstate to U.S. Highway 20; easterly along said highway to the intersection of U.S. Highway 20 and U.S. Highway 85 in the town of Lusk.

Elk area 116. Beginning where the Belle Fourche River intersects the Wyoming-South Dakota state line; southerly along said line to Interstate Highway 90; southwesterly along said highway to U.S. Highway 14 at the town of Moorcroft; northeasterly along said highway to Wyoming Highway 24; northerly along said highway to the Belle Fourche River in the town of Hulett; northeasterly and southeasterly down said river to the Wyoming-South Dakota state line.

Elk area 117. Beginning where Interstate Highway 90 crosses the Wyoming-South Dakota state line; southerly along said line to the Black Hills National Forest boundary;

20–3

westerly along said boundary to U.S.F.S. Road 863; southerly along said road to the Moskee Road; southeasterly along U.S.F.S. Road 807 to the Wyoming-South Dakota state line; southerly along said line to U.S. Highway 16; northwesterly along said highway to Interstate Highway 90; northeasterly along said highway to the Wyoming-South Dakota state line.

These changes also impact Map 3-18 (the elk herd unit boundary map).

The antelope herd unit boundaries on Map 3-18 have also changed. The Thunder Basin Antelope Unit now only includes antelope hunt area 7. Antelope hunt area 6 has been incorporated into the Lance Creek Herd Unit.

d Sage Grouse Leks: On map 3-20, a number of sage grouse lek and nesting areas are not plotted. To insure an accurate accounting of sage grouse leks, these sites should be reviewed with Wyoming Game and Fish personnel prior to publication of the final EIS.

e Old Growth: Under the Preferred Alternative (Forest Resource Management), the Department recommends forested areas on public lands be managed to maintain approximately 10% old growth, instead of the 5% suggested by the preferred alternative. Old growth forests are one of the most limiting habitat types in forested areas nation-wide, and should be promoted as much as possible.

Thank you for the opportunity to comment.

Sincerely,

Bill Wichers

BILL WICHERS
DEPUTY DIRECTOR

BW:TC:as
cc: USFWS

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WYOMING STATE GEOLOGICAL SURVEY
P.O. BOX 3008 • LARAMIE, WYOMING 82071-3008
(307) 766-2286 • FAX 307-766-2605 • E-MAIL wsgs@wsgs.uwyo.edu

STATE GEOLOGIST - Gary B. Glass

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Metals/Precious Stones — W. Dan Hausel
Oil and Gas — Rodney H. De Bruin
Publications — Richard W. Jones

June 6, 1998

MEMORANDUM

TO: Julie Hamilton, Wyoming State Clearinghouse

FROM: Gary B. Glass, P.G., State Geologist

SUBJECT: Newcastle Resource Management Plan [Second Draft] (State Identifier # 89-087)

First, we want to go on record as supporting the Bureau of Land Management's (BLM's) decision to not make the Lance Creek fossil area an ACEC (page 1). This is an appropriate decision as there are adequate protections for the fossils in this area without this designation. We also support the decision to not place interpretive signs regarding the fossils in this area (pages 1-2).

a

It is, however, very difficult to comment on the remainder of this document because so much of it is outdated. This is particularly true for the information and data on mineral resources found on pages 70-80, pages 101-102, and in Appendices H and I. For examples, much of the information on oil and gas on page 71 and in Appendices H and I has not been updated since the first draft of this document, which was issued in 1993 using data through 1989.

b

In regard to bentonite, this document does not recognize the more recent recovery of this industry related to its new markets as kitty litter, as a binder in taconite pellets, and in environmental cleanup and containment. In fact, the bentonite industry is approaching record levels of production.

There is no mention that the Bear Lodge Pluton contains the largest resource of thorium and rare earth mineralization in the U.S., of the uranium

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c resources of the Bear Lodge Pluton, of the potential for diamond-bearing kimberlite, or of the occurrences of fluorite, chemical-grade limestone, decorative and dimensional stone, and zeolites.

d Socioeconomics for the Resource Area have to be based on more current mineral resource information and more recent forecasts than provided in these sections. We can provide some of this information if the BLM contacts us. This includes relatively current maps of oil and gas, coal, industrial minerals, construction materials, uranium, metals, and precious stones for this area of the State, which should help improve the mineral resource discussions since these maps are not cited as sources of information in this draft of the EIS.

e The stratigraphic nomenclature chart (Figure 3-6) on page 76 is from a 1968 guidebook by the Wyoming Geological Association and does not include the latest interpretations for nomenclature in the area of the Black Hills uplift, Hartville uplift, and the eastern Powder River Basin. The Stratigraphic Nomenclature Chart published by the Wyoming State Geological Survey in 1993, as Map Series 41, is a more up-to-date version to use and cite. There are some significant discrepancies between this 1993 chart and the 1968 chart, especially in the Cretaceous and Tertiary portions of the stratigraphic column.

f On Map 3-2 in the back of this document, is the dashed line, which is identified as a structure contour on the base of the Fall River Formation, a structure contour?

If there are questions on our comments, please direct them to the appropriate member of our staff or to me. Rod De Bruin is our oil and gas expert; Ray Harris handles industrial minerals, construction materials, and uranium; Bob Lyman is our coal geologist; Dan Hausel can answer questions on metals and precious stones; and Alan Ver Ploeg can discuss the general geology of the area and the paleontology.

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Office of Federal Land Policy

122 West 25th Street ● Herschler Bldg., 3 West ● Cheyenne, WY 82002-0600 ● 307-777-7331 ● 307-777-5430 fax

July 20, 1998

Gary Johnson, Newcastle Resource Area Manager
Bureau of Land Management
1101 Washington Blvd.
Newcastle, WY 82701

Dear Gary:

This office provided the Newcastle Resource Management Plan, 2nd Draft Environmental Impact Statement, to all affected state agencies for their review, in accordance with State Clearinghouse procedures. Specific comments from the Wyoming Game & Fish Department, State Historic Preservation Office, State Parks & Historic Sites, Public Service Commission, and State Geological Survey are attached for your review. Please give them full consideration. Informal comments from other agencies that resulted from the Cheyenne briefing and the on-site tour are incorporated below.

a

Because Bureau of Land Management (BLM) holdings in this area tend to be small, scattered parcels with no public access, the State does not support designating the entire National Natural Landmark as an Area of Critical Environmental Concern (ACEC). Nor do we support such a designation for parcels without public access. Believing that smaller, discrete, and well-defined areas can be managed more effectively than large, poorly-defined areas, the State would encourage you and your staff to consider adding the land exchange proposed by the landowners to the list of alternatives in the Final Environmental Impact Statement. Such a land swap could consolidate BLM and private land ownership, simplifying management of both, and acquire for BLM a discrete parcel of land which has public access and easily-visible dinosaur fossils. We suggest that, should such a land exchange occur, the resultant fossil location be designated as an ACEC with anticipated significant public visitation, and managed accordingly.

If BLM retains ownership of the three parcels in this area which currently have public access, the State suggests that BLM conduct an on-the-ground paleontological survey of those specific sites prior to ACEC designation of any of those parcels. Such a survey would complement the current GIS modeling work, and would determine if there is truly a need to designate any of those areas as ACECs.

The State is very appreciative of the extensive and ongoing efforts of your staff to involve the State and the public in this planning process. We know well that those efforts are resource-intensive relative to budgets and man-hours. The gratification of seeing formerly-conflicted interests discovering common goals, and the transfers of knowledge and values among all the interests, has hopefully "reimbursed" the investments of you and your staff.

Thank you for this opportunity to comment.

Sincerely,

Carol Kruse

Carol Kruse
Planning Consultant

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THE STATE OF WYOMING

JIM GERINGER
GOVERNOR

Public Service Commission

HANSEN BUILDING, SUITE 300 2515 WARREN AVENUE CHEYENNE, WYOMING 82002
(307) 777-7427 FAX (307) 777-5700 TTY (307) 777-7427 http://psc.state.wy.us

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STEVE FURTNEY
COMMISSIONER

STEPHEN G. OXLEY
SECRETARY AND CHIEF COUNSEL
DAVID M. MOSIER
ADMINISTRATOR

MEMORANDUM

TO: MS JULIE L. HAMILTON
POLICY ANALYST
OFFICE OF FEDERAL LAND POLICY

FROM: JON F. JACQUOT
ENGINEERING SUPERVISOR
PUBLIC SERVICE COMMISSION

Jon F. Jacquot

DATE: JUNE 29, 1998

RE: BUREAU OF LAND MANAGEMENT NEWCASTLE RESOURCE MANAGEMENT PLAN, SECOND DRAFT, STATE IDENTIFIER NO. 89-087

Thank you for the opportunity to comment on the referenced matter. The Commission requests that no unreasonable restrictions be placed on the provision of utility service or on the construction of utility and pipeline facilities as a result of the development or implementation of the referenced plan.

a The Commission would prefer that the Bureau of Land Management avoid mandatory undergrounding of electrical utility facilities as a management objective. The cost of constructing, operating and maintaining underground lines is generally higher than the cost of comparable overhead facilities and the reliability is not as good. The Commission's general policy is that those who cause the higher costs of undergrounding electrical lines should pay the difference. If the additional costs are not borne by those who cause them, the rate payers of the affected utility would be unfairly discriminated against when burdened with paying the additional costs.

b The Commission requests that, in cases involving oil and gas leasing, the Bureau of Land Management not restrict the construction of utility and pipeline facilities necessary for the exploration and production of oil and gas.

♻

c The Commission requests that, when the Bureau of Land Management sells or exchanges lands, the rights of the utilities and pipeline operators holding right-of-way easements from the private land owner and right-of-way grants from the Bureau of Land Management be protected. The Commission suggests that the private land owners acquiring Bureau of Land Management lands give new right-of-way easements to the utilities and pipeline operators for their existing facilities, and that, when the Bureau of Land Management acquires private lands, it issue new right-of-way grants to the utilities and pipeline operators for their existing facilities.

d Where construction is undertaken, the Bureau of Land Management or those managing the construction should contact and coordinate with the utilities and pipeline operators serving and otherwise present in the area to prevent contact with and damage to utility and pipeline facilities. If it becomes necessary for utility or pipeline facilities to be modified or relocated, the cost of modifying or relocating any utility and pipeline facilities to accommodate construction, should be borne by the Bureau of Land Management or those benefitting from the construction. If these costs are not borne by the Bureau of Land Management or those benefitting from the construction, those costs would fall unfairly on the rate payers of the affected utility or pipeline.

e When the Bureau of Land Management undertakes prescribed burns or applies a let burn policy, it should make every effort to protect utility facilities in and near the burn area from fire and related damage. If such damage occurs, the cost of repairing or replacing such facilities should be borne by the Bureau of Land Management. Such costs, if not paid by the Bureau of Land Management, would fall unfairly upon the rate payers of the affected utility. If you have any questions about the location or characteristics of the utility facilities in the proposed burn area, whether they are located above or below ground, please contact the involved utility or utilities directly.

f The Bureau of Land Management should make provisions requiring those with timber operations to contact and coordinate with the utilities and pipeline operators serving or otherwise present in the area to prevent contact with and damage to utility and pipeline facilities. This should also apply to those clearing future rights-of-way. Consideration should also be given to the establishment of utility corridors through timbered areas, with maintenance of cleared areas for construction.

g The Bureau of Land Management and the utilities using the forest should make every effort to prevent trees from falling onto utility lines. Forest fires have been known to be caused by trees falling into electrical utility lines and such fires should be prevented.

If you should have any questions regarding this matter, please let me know.

JUNE 8, 1998
BUREAU OF LAND MANAGEMENT
PUBLIC HEARING, CROOK COUNTY COURTHOUSE, SUNDANCE, WYOMING
Commencing at the approximate hour of 7:00 p.m.
Gary Johnson, Hearing Officer, presiding.

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MR. JOHNSON: Welcome, everyone, to the session. First, I would like to bring out the point that this is not the place to argue or discuss or answer questions, this is time set aside for official statements for the record, and our purpose is to receive comments.

I want to introduce you to the group. Jack Hanson is the team leader, Shelley Peele is a team member, and I am Gary Johnson, the area manager at New Castle. We also have Jude Carino with us from the district office as public affair representative.

This is the first draft EIS for the Newcastle RMP issued September, 1993. So that all interested persons would have an equal opportunity to review and comment, it was decided to update the document and reissue a second draft of the EIS.

In this document, there are four alternatives for management of the public lands. It's important to note that public lands include not only the Federal land surface administered by BLM, but also the Federal mineral estate.

From the first draft, we sorted out what we considered 11 concerns. And from those 11 concerns, we've developed four major issues, and the document addresses these.

The concerns are Lance Creek Fossil area ACEC proposal, interpretive signs and displays about fossils placed on BLM-administered public lands in the Lance Creek fossil area, BLM responsibilities on the split-estate lands, interpretation that livestock grazing is a surface disturbance, proposal to establish the Stateline special recreation management areas detriment to all interests and uses in the area, access to BLM-administered public lands is lacking and whether or not increased access to public lands would adversely affect private lands and private landowners, whether or not the BLM-administered public lands in the resource area need more identifying signs, public land sales and exchanges are too time-consuming and costly, whether or not federal oil and gas leases should be more restrictive, whether or not policy changes in the wild and scenic rivers review process will change the outcome of the review-threatened and endangered (T&E) or sensitive species.

From those concerns, we developed four major issues. No. 1, retention or disposal of public lands; 2, surface disturbance; 3, special management areas; and 4, control of prairie dogs on BLM-administered lands.

The formal comment period for this issue of the RMP began April 24, 1998 and ends on July 23, 1998. Written comments can be sent to the Newcastle Resource Area office. We have additional copies of the RMP available if anyone wants them.

In our presentation, we have ground rules. One person speaks at that time, give name and who you represent, one representative for an organization. And a time limit if needed. Tonight, since we haven't had any comment, we don't need a time limit.

One of the things we're counting as part of the record is the sign up book. We encourage that everyone sign up so it's on the record that you did attend the meeting.

Basically, that's it. One other thing, we will stay here until 9 o'clock in case someone wants to give a comment.

(Meeting concluded at
9:00 p.m.)

REPORTER'S CERTIFICATE

State of Wyoming,)
:
County of Laramie)

I, Catherine M. Moriarity, a Professional Shorthand Reporter for the State of Wyoming, do hereby certify that I reported by machine shorthand the proceedings contained herein and that the foregoing pages 2 through 4 constitute a full, true and correct transcript.

Dated this 7th day of July, 1998.

CATHERINE M. MORIARITY - NOTARY PUBLIC
COUNTY OF LARAMIE
STATE OF WYOMING
My Commission Expires July 8, 1998

Catherine M. Moriarity
CATHERINE M. MORIARITY
Court Reporter

My commission Expires July 8, 1998.

JUNE 11, 1998

BUREAU OF LAND MANAGEMENT

PUBLIC HEARING, LANCE CREEK ELEMENTARY SCHOOL

Commencing at the approximate hour of 7:00 p.m.

Gary Johnson, Hearing Officer presiding.

PROCEEDINGS:

HEARING OFFICER JOHNSON: Could everybody please take their seat. We're about ready to get started. Are we ready?

First of all, good evening. And the people from BLM are really glad to be here. And we are glad that you are here. First thing I want to do is -- very first thing I want to do is thank Jim Kruse and those folks who helped to set this meeting up tonight, did a very, very good job. And we appreciate that.

And secondly I would like to introduce myself and the other people here from BLM. My name is Gary Johnson. I am a the area manager, Newcastle resource area. Jack Hanson is the RMP leader. Shelley Peele is an RMP team member. Where is Shelley? Right there. Jude Carino is helping us with public affairs from the Casper district. And Lorie Briant is here, the paleontologist also out of our Casper district. And tonight we have Gust Hatanelas who is our court reporter.

Just real quickly, as you probably know, read the papers, we've had open houses and public meetings now in all three of the counties. We had Crooke County Monday night, Newcastle Tuesday night and tonight here.

The purpose of this meeting we're not here to argue, or discuss, or answer questions. The open houses were intended for that. And I invite anybody and everybody if you have a problem, you are welcome to come to the office. You know, this is an opportunity for you to be able to comment, but please don't think this is only opportunity until comment period closes, we certainly welcome any thoughts that you have.

For this meeting we're here to receive comments and to allow you to make an official statement for the record. And everything we will record and be part of the record. And there will be a transcript of this meeting tonight. Just a real brief summary of what's happened with this RMP first draft that the Newcastle RMP issued September 1993.

So that all interested persons would have an equal opportunity to review and comment, we decided to update the document and reissue it as a second draft which will we have -- which is what you have right now.

In the second draft we have four alternatives for management of the public lands. This includes not only federal land surface administered by BLM, but also the Federal Mineral States.

As a result of our review and of the first draft and comments we have 11 concerns in the new draft. From these 11 concerns we have developed four major issues and I will read you the concerns and issues.

Concern number one, the ACEC proposal. Concern number two, interperative signs and displays about fossils placed on BLM administered public lands in the Lance Creek fossil area. Three, BLM's responsibilities on split of state lands four the interpretation that livestock grazing is a surface disturbance. Five, the proposal to establish the state hand as official recreation management area, and it's potential detriment to all interested users in the area. Six, access to BLM administered public lands is lacking and whether or not increased access to public lands would adversely affect private lands and private landowners. Seven, whether or not BLM administered public lands in the resource area need more identifying signs. Eight, public land sales and exchanges too time consuming and costly. Nine, whether or not federal oil and gas land leasing should be modified. 10, whether or not policy changes while the review process changes the outcome of the review. And 11 threatened and endangered or sensitive species, of these we developed four major issues. Number one, restriction or disposal of public lands. Number two, surface disturbance. Number three, special management areas. And number four, control of prairie dogs on BLM administered public lands.

The formal comment period for the second draft of the RMP began on April 24, 1998. And it will end only July 23, 1998. Written comments can be sent to the Newcastle resource area and we certainly welcome them. Additional copies of the draft are over there. I think we have some more in the vehicles if you need them. We have them at our office if you need a copy.

I am going to ask that we have a few ground rules for this meeting so that we can make it work in an orderly manner. First, I ask that anyone that makes a comment please come to the podium and do so. And one of the reasons for that is that the court reporter can transcribe your comments and we have some order.

Secondly, one person at a time at the podium.

Third, please state your name and who you represent when you come up to comments. Whether it be yourself or an organization.

Fourth, we would prefer to have one representative per organization, if that's the situation here.

Fifth, we've been trying to set a time limit. And I don't know how well that's working. What I have done the at the last two meetings was to ask for a five-minute limit. But we really didn't have much many commentors.

I noticed that we might have a lot more tonight. I talked with the court reporter, all the people from BLM are willing to stay past 9 o'clock. The court reporter said that he would also stay past 9:00.

I would ask if you could please try to limit your comments to five minutes. If you can't, that's fine too. After a certain point what I would ask you to do is maybe wait until the end of the meeting to finish, depending upon how long your presentation is.

This is your meeting. So I am just trying to moderate and try to get us through it.

I have noted here, but I don't think it

applies, so I will skip that one. It's not a good ground rule. Let's see. And I guess one other thing I put down here, I am not sure I want to do that, but I guess in the interest of orderly progressions of the meeting, depending on how many people comment, I guess I would ask a second time to try to -- goal that I have is to let everybody here make a comment. But again I think with this idea in mind, we will stay as long as we need to.

And basically that's the initial discussion. I am going to ask four people -- I talked with Jim and he requested that four people want to make comments first. And that's fine with me. After those four people make comment first, I was going to go down the list.

One other thing, I don't know if I mentioned it or not, please make sure you sign. Because that all of this becomes a part of the record and that's important for us, but after that we can either go through the names of people or maybe have people hold their hands up and volunteer to comment, whatever will suit you. But with that, again I thank you for your attendance. You know, for what it's worth, there was a lot more people from Niobrara area than the Weston and Crook County.

And with that I will go ahead and open the meeting up. And first person I will ask to come and give testimony is Donna Ruffing.

MS. RUFFING: Good evening. Here we are four and a half years later still trying to defend our private property rights. I wanted to show you what has happened in four years. That is a lot of time on everybody's part. Not only our's but the BLM's. That's a lot of taxpayer's money. It's a lot of volunteer hours and hours that most of you haven't had. Actually you weren't able to give those that time, but you did and you stuck in there and that's why we're here today.

Have we made any progress? Yes, we have. But uniting through the ospisus that's the Niobrara Resources Organization, we have stood up. Our concerns have been heard. They've been dully noted and most have been favorably acted on.

Early on, the BLM recognized the fallacies, declaring the Lance Creek fossil area of critical concern, ACEC, the proposed areas of 351,360 acres consisted of 79.7 percent of deeded land. There is 6.4 percent of state land and 13.9 percent is federal land. That's 48 840 acres, 33,720 acres of federal land is land locked. Leaving only 15,000 120 acres accessible.

As a result, the BLM deleted ACEC designation from the ensuing drafts. 10 pages were submitted to the BLM detailing by page, paragraph and line, the issues and concerns on every topic. And this was done in cooperation, consultation with the Niobrara County Resources Board.

The BLM recognized the ambiguous language and the contradictory statements. The second draft has been cleaned up significantly. The second draft deals with federal surface only. Prairie dog control and split estate to our satisfaction. The ACEC designation has been eliminated and we can live with the threatened and endangered species now that it reflects to federal surfaces only.

Our greatest concern at this point is the possibility of the ACEC being included in the final record of decision. The Sierra Club, the Wyoming Outdoor Council, the Wyoming Wildlife Federation, the National Wildlife Federation, the Greater Yellowstone Coalition are indicating the BLM with comments to declare the Lance Creek fossil creek area an ACEC. I don't have access to their comments other than what was in the Casper Star Tribune. And I would like to quote some of their statements.

"Lance Creek is in disparate need of special management. Investigated all the NNLs that the Park Service has designated, had substantial BLM land. This is only NNL in the Rocky Mountain region." That is not got good grammar. "ACEC designation. The ACEC would not, as appeared locally, amount to a strict National Park designation with all strict regulation that entails that designation would allow the BLM a procedural tool for ordering patrols of the area, marking the boundaries between public and private lands. Protect the fossils from surface disturbing activities. ACEC designation would permit multiple-use activities to continue with some restriction to protect the fossil resources, would do little, if anything, to augment tourism. These are still some quotas from the environmentalists. The BLM went to too far in stripping the landmark ACEC status all together based on what amounts to mapping, the landowner getting out NNL is overreaction.

It's just like the National Historic Landmark designation, there is nothing regulatory to this designation other than it recognizes some values out there.

Local opposition to both designations is based on fear that the area is going to become a national park and they are going to lose their land. It just doesn't make sense.

Wyoming BLM is giving these people way too much credibility in their decision-making process at the state level. Let's get real. The original resource management plan called for ACEC designation to be the entire NNL area, the 351,360 acres including all of the deeded land. There was no mistake. There was no mapping error. It was intentional and the landowners did not overreact.

It was discovered that the private property owners declined from participating in the original voluntary NNL designation in 1966. That the area was expanded in 1974 without the landowners knowledge that 84 of the 200 landowners, the removal their land from the NNL designation. To date the Park Service has refused to honor this request the NNL, ACEC are not symbiotic designations and governmental action has consequences.

Special management -- I don't think the federal government could provide any additional special management. The landowners in this area, in spite of the federal government have done more to protect the paleontologic resources. The landowners recognize the potential historic value to our agriculture.

At the same time, comparing NNLs with substantial BLM land is ludicrous. This area does not have substantial BLM land. 23.9 percent to 79.7 gives us a break. The ACEC designation would allow the BLM to substantiate an increased budget request. The end result we pay more taxes, and you as stewards of the land would have to deal with the increased numbers of the entitled public only a daily basis.

The environmental organizations have no concept of the cost required to mark the boundaries between the private and public lands. I can't even conceive of it. They have no concern if a landowner would be required to share in that cost.

Their focus is only the small picture. Some restrictions it's that concerns us. Is it removal of livestock from the area to protect the fossils. It certainly won't be the wild game. They wouldn't want that. It is not erroneous fear that drove us to express our concerns over these designations. It's our constitutional right to protect our property, our custom, heritage and culture. Too often we have allowed the government to infringe in the past by not expressing our opinions.

Each time we appethetically allow government interference, it leads to additional infringements. Pretty soon we have lost all control and our way of life is lost.

In the past few years we have observed the federal government arbitrarily declaring which would be necessary areas, historic and scenic rivers. Don't presume to tell us about erroneous fear. We have stood up, expressed our legitimate concerns and been recognized by the BLM as being credible.

Over the past four years we have developed an adequate working relationship, better than it was in prior years. I urge the BLM to continue to recognize these credible concerns. To recognize our constitutional rights as private citizens and property owners. And my Niobrara County's right to participate as a cooperating agency. I urge them to submit the second draft as it is for a record of decision.

Thank you.

HEARING OFFICER JOHNSON: Thanks, Donna.

Next, Tom Hamilton.

MR. HAMILTON: She said what I have to say.

THE COURT: Okay.

Next TIm Kruse.

MR. KRUSE: This might be a little low. I have done some low things, but -- thank you, Gary. I really appreciate the fact that the BLM saw fit to appoint you as district manager because of your open-mindedness and willingness to listen. That's all we ask for. I appreciate the work done by Jack and Shelly, done a tremendous amount of work. Rest of the BLM personnel that's been involved in this that changed the attitude.

I think this is what we really have been hoping for was the fact that we would be able to work together to improve the resources in this area. And we're really tickled.

I also want to thank our three county commissioners for the support that they have done. They are all three here. They have given us. We've got Ross Dierck. We thank you. We also have two representatives of our federal elected officials.

We got Elaine and Robin here Robin has been with us the hole way. Done a great amount of good for us. And we also thank Jeanie Peterson for being here. For representing the Lusk Harold.

I guess that the Niobrara Resource's position is mainly as clear leader. We realize there weren't great changes made in this, but what we see is a clarification and specificity of language, you know where our fears were, that it could be interpreted in many different ways.

I think you have done a lot of work on narrowing the scope of it saying exactly what you mean and I think that's important. We support the Niobrara Resources support the ACEC for ~~[illegible]~~ Whoopup Canyon. We think it's right and appropriate for that. We also support the decision to remove the request for the Lance Creek fossil area. Because if you look at it from a resource point of view we thought that it was going to be detrimental to the resources in this area. We thought it would have adverse publicity that would cause people to come here and we didn't have the ability to control that inflation of people. It's much like declaring a wilderness area and everybody thinks that's special, different from the forest next to it. Or declaring a wild and scenic river. And as happened on the Niobrara River, people flock to it. You get a lot more pressure.

We believe that the Sierra Club and these other organization's opposition to removing this ACEC designation or not having that designation is more of a membership issue than a resource issue. We believe that there are misrepresenting this strictly to gain membership rather than to protect the resource and we are really disappointed in this stance.

What we would like to really comment on is the language on the prairie dog issue. Our fear was it was a health and safety issue if there was no control. And if there was no control, there would be a resource degradation problem.

And we like the language that you put in here regarding those two problems. We like the language on the ~~Smith~~ Split Estate. You have cleaned that up a lot.

As most people know that's involved in the oil and gas business, there are tremendous number of rules and regulations on oil and gas exploration. We feel that these regulations that are presently in place are adequate to protect the resources in this New Castle district.

There was a couple issues that we still have a bit of a problem with. One of them is mapping of the threatened or endangered species habitat area. We don't see and we haven't been shown the data or information that that area is any more important to threatened and endangered species than any of the rest of this area. We would still like to see proof that that's necessary.

The other things is Dan Hanson has done some research, and he's got updated information for the economics, agriculture economies. He will present that, but he has done research on that. We would like to present that.

In all we're really pleased with the changes that are made. We realize that there was only about two major changes and that most of it was semantics. But we really appreciate the work that's been done on this and we appreciate the openness of the BLM personnel in hearing our concerns and changing wording. So that always our fears.

Well, some further written comments, but these are our general feelings and I really appreciate the work that's been done.

Thank you.

HEARING OFFICER JOHNSON: Thank you, Jim.

Danny Hanson?

MR. HANSON: Once again, I would like to commend BLM for the great job they've done and the change of attitude. And we are going to have some written comments and this is one of them. And this one is kind of my Achilles heal. So I'll go on with it here.

This is about what agriculture produces and contributes to the state and to the county. And I will just read from the book right here. Let's see.

The most significant difference between economic sectors at the state and planning area levels was in the farm sector which contributes only 3.6 percent to the state. Here is something from the state statistician, Dick Colter. And he says agriculture continues to be a top industry for Wyoming. And that's in the introduction of the book. So I think that probably means we're a little bit more than 3 percent of the state.

Now, going on down they say that we do, in the county level as an indication of the volatility in farming, this sector of my Niobrara County contributes only 1 percent to the state level and 3 percent to the planning area level.

Okay. I have got a bunch -- I did some research. And I have got a bunch of papers here I would like to leave with you. And this is kind of my Achilles heal. I would like to see this part changed in here because we are really more than 3 percent. The fact -- here is the fact that we got from the state statistician in 1993, agriculture -- this is

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Niobrara County total gross income in Niobrara County was 26.5. The next closest industrial -- I don't have that one available. In 1994 agriculture contributed 23.8 million in Niobrara County. Oil and gas was 12.2. '95 was 23 million even. Oil and gas was 10.5. '96, agriculture was 21.8 oil and gas was 11.9.

That's a little bit more than 3 percent I think everybody agrees. And the reason this is my Achilles heal really is we go through this ACEC and there really are a lot of well-meaning people that are part of the Sierra Club and they really like to weigh things. And they think, well, if it's only 1 or 2, 3 percent of the economy we are not going to hurt them by taking that land over, making a fossil park or something. That's why we would really like to see that changed other.

Than that, and few changes that Jim was talking about, we're pretty happy with it, but we would like to see this part changed and I will leave these sheets of paper here for you.

That's all I got.

HEARING OFFICER JOHNSON: Are those the ones that you are leaving here?

MR. HANSON: Yeah.

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HEARING OFFICER JOHNSON: Thanks.

Jim, that's the four people I had on the list. So now if you want to hold up your hand if you would likes to comment.

I don't seem any hands.

MR. PEASLEY: For the purpose of the comment on the draft EIS, would you like to know each individual's position on the proposed ACEC, whether or not they agree with your change? Or does that help or not?

HEARING OFFICER JOHNSON: Excuse me.

The way I look at it, any comment that we receive helps us. And I welcome all comments.

Did I answer your question or --

MR. PEASLEY: Yeah, I think it's really important. This fact this is part of the record so you don't have to write a letter, but if you are opposed to that ACEC designation, if you agree with the BLM on the draft EIS, I think it's important to give your name and position that you take there. It's just the same as writing a letter; is that right?

HEARING OFFICER JOHNSON: Yes.

In fact, any comment we listen to, including verbal comments and discussions, written

MR. JOHNSON: Don Johnson. I have a place in the ACEC. I am definitely opposed to it.

HEARING OFFICER JOHNSON: Thanks.

MR. PETERSON: I am Steve Peterson, a landowner in Niobrara County. I am opposed to the ACEC.

HEARING OFFICER JOHNSON: Thanks.

MR. GREER: I am Andy Greer. I am a Cattle rancher in the Lance Creek area. I am also opposed to the ACEC designation.

MR. WADE: I am Pat Wade. I am opposed to ACEC designation. I am not a landowner, but I hold leases in this area.

MR. ANDERSON: I am Gary Anderson. I am a landowner and I am opposed to the ACEC designation.

MR. MILLER: I am Harold Miller. And I am also opposed.

MR. JOHNSON: Artie Johnson. I am a landowner. I am opposed to it also.

MR. KANT: Randy Kant, oil well operator. I am also opposed.

MS. HARVEY: Donna Harvey. I am a landowner and I am quite relieved that this ACEC has been dropped from this EIS.

MS. JOHNSON: I am Carolyn Johnson. I am a cattle ranch and landowner also. I am very opposed to also the ACEC designation.

MR. GUNN: I am Dale Gunn. I am a rancher. I am opposed to the ACEC.

MR. ROBB: I am Ray Robb and I am opposed to the ACEC.

HEARING OFFICER JOHNSON: Do you want to --

MR. ROBB: Yes. I am a landowner.

HEARING OFFICER JOHNSON: -- for the record.

MR. HAMILTON: I am Tom Hamilton, commissioner and landowner. I am also opposed to the ACEC.

HEARING OFFICER JOHNSON: Thanks.

MR. STEWART: I am Ron Stewart, the current representative from this district in the Wyoming legislature. I urge to you stick with this second draft. I urge you to heed the comments of the Niobrara County Commissioners to hold on to the second draft. We do oppose ACEC here.

I would also like to second the comments of Mr. Hanson about what Agriculture contributes to our areas. I would like to see these clarified.

MR. SMITH: I am Claude Smith, a landowner. I am opposed to ACEC, but I would also like to second your comments.

I think probably this draft after really reading the first one and studying it, I think you have done a real job on the second draft. And it isn't perfect for everybody, but it can't be. I think you have done a good job of balancing the issues and being open. And I appreciate that and I thank you.

HEARING OFFICER JOHNSON: Thank you.

MR. JAMES: I am Richard James, county commissioner. Used to be a landowner, but I am with the other commissioners that we were definitely against the ACEC.

HEARING OFFICER JOHNSON: Thanks.

Any more comments?

MR. BAYNE: Gary Bayne. For the record, I guess I would like to also say that I support Danny Hanson and Ross Dierck in this clarification as far as getting the figures correct on agriculture and the economics involved.

HEARING OFFICER JOHNSON: Thanks.

MS. LANDERT: I am Shirley Landert. From the very beginning when this came down the pike, I think we all were in a little in amazement that something could be coming from the BLM office because

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we felt like you have always worked with us and everything. And the first original draft just blew us all out of the saddle.

I really feel that just glancing through, having seen this book for the first time tonight, I really think that there has been a lot of work done.

Our opposition has been recognized. You people in the BLM office have recognized the fact that we have got to make a living. We have to live within the regs that we can and honor your rules and regulations that makes it beneficial for all involved.

And I really feel that the ACEC is not really necessary and I am opposed to it.

HEARING OFFICER JOHNSON: Thank you.

Any more comments?

(No audible response.)

HEARING OFFICER JOHNSON: Give you another couple of minutes.

We are interested in comments and it appears maybe that most folks have commented. One thing I've learned tonight is some people like to comment from the audience and less hard for us. I suppose if there is not any more comments -- again, this is your meeting. The purpose of it is for you to comment, but it appears that every one has kind of said what they wanted to say.

So if there is not anything else, I kind of give one last chance, and if not we will close the meeting.

MR. SWANSON: My name is Stan Swanson. I am a landowner. I have got one question.

I was at your office in New Castle the other -- I believe the final comments for this are due in by the 9th of July.

HEARING OFFICER JOHNSON: No. July 23.

Jack?

MR. HANSON: Right.

MR. SWANSON: So July 23 everything has to be in by then?

HEARING OFFICER JOHNSON: Yes. I again stress to every one that any time you talk with us that's a comment, we want you to do that. As far as the record goes, that's when it stops, but any time you have any thoughts about it, sharing with us up until that point, we will listen to what people have to say. I don't know if you wants to say this here, tell them about the tour on the 9th of July.

Jack, what do you think?

MR. HANSON: Yeah, that would be good.

HEARING OFFICER JOHNSON: If we don't have any more comments, what I would like to do then is tell you about the tour. And the way I tell people things is let someone else. I would like Lorie Bryant, our paleontologist come up in general and discuss it. And I will talk a little bit about it. As you know, there is an opposing point of view on ACEC. One of the things that spirit of BLM it's working is to try to work with the public. When we saw the strong feelings people had, we decided to try to set up a tour. And we have been working on that real hard and we were trying to do that. I think we're kind of getting it to the point where we are about ready to do it we have some details, and I'm not sure we haven't ironed everything out quite yet. We will let every one know, but any way, Lorie, would you come up and kind of talk about the tour.

Jack, if you need to, would you also?

MS. BRIANT: I am Lorie Bryant. I am the BLM paleontologist for Wyoming and several other states. I have learned a lot from this process. It's been a great learning experience for me. It sounds like it has been for you.

Part of what we've been discussing is the opportunity not only to deal with the question of fossil resources on paper, but to have an opportunity to take interested parties out to see what's actually on the ground. I'm not sure that we're at all final on how we are going to do this. Gary's picked a date and I'll be continuing to work with Gary and other staff at Newcastle to put a tour together that will accommodate some questions and maybe give people some answers.

HEARING OFFICER JOHNSON: Jack.

MR. HANSON: My name is Jack Hanson. I am the RMP team leader for the current project.

In talking with Lorie about the tour, that's how it came about. Is just to explain the ACEC, what an ACEC is, what it does. It benefits the feasibility, given the specific resources available and the best way -- we decided the best way to do this is an on-the-ground visitation to determine and to express what it is we're trying to protect.

So we've come up with a field tour to do this. The date on that is July 9th, but that's as close as we have come to specific details. We have kicked a lot of things around, penciled some things in. We don't have specific areas. We have been talking with Jim Kruse, Donna Ruffing concerning pulling this thing together and that's as far as we have it right now.

HEARING OFFICER JOHNSON: Thanks, Jack.

Donna, do you have any more discussion?

MS. RUFFING: This is being put together particularly for the environmentalists and those people who really don't understand what the situation is in our county and whether those individuals will show up or not, we don't know.

Sierra Club has been invited a number of times to come to Niobrara County and they have neglected to feel that it was important to do so. So we may put it together, but I thought it would be kind of interesting because whenever I come to the Lance Creek area I always get lost and maybe somebody can show me where I am going. You know?

And you might enjoy it, too.

HEARING OFFICER JOHNSON: Thank you, Donna.

Any more comments? Anything? Anyone else would like to say for the record while we have a court reporter here?

And if not, one last time maybe I guess put it on the record, but I do support and encourage you to keep giving us your comments. Keep letting us know what kind of job we're doing. And I want to thank some people that I have been working with over the last -- I was thinking I have been here I think little over two years, I think? Yeah. No, maybe three years. Anyway, there is some people that I worked pretty closely with. Donna is one of them. Jim Kruse is another. There is Danny, county commissioners. I also would like to recognize The congressional delegation and I thank those folks.

I think we are reaching a point now where we are working together pretty good. But anyway, I want to thank those people.

I want to thank all of you people for coming out tonight. If there is nothing else, we will close the meeting.

(No response.)

HEARING OFFICER JOHNSON: Okay. Thanks.

(The proceedings were concluded at the approximate hour of 7:45 p.m.)

STATE OF WYOMING)
) SS
COUNTY OF LARAMIE)

I, Gust J. Hatanelas, official court reporter, hereby certify that the foregoing transcript of the proceedings is a true and correct transcription of the taped proceedings on the date indicated.

Dated this 30 day of July, 1998.

JUNE 9, 1998

BUREAU OF LAND MANAGEMENT

PUBLIC HEARING, SECURITY FIRST BANK, NEWCASTLE, WYOMING

Commencing at the approximate hour of 6:00 p.m.

Gary Johnson, Hearing Officer, presiding.

PROCEEDINGS:

HEARING OFFICER JOHNSON: Okay. Welcome.

First I would like to introduce all of the BLM people who are involved in this tonight. I'm Gary Johnson I'm the area manager, Newcastle Resource Area. Jack Hanson is the RMP team leader. Shelly Peel is The RMP team member. And Jude Carino is representing public affairs for us tonight. Welcome to you.

The purpose of this session is not really to argue, discuss or answer questions about the RMP. We've had an open house this week. We had an open house last night in Sundance, we had one today in our office, and an open house tomorrow night from 6:00 to 7:00 in Lance Creek at the elementary school.

The purpose of this is to make a statement for the record and to make comment on the RMP. Just a brief summary of what's happened in this process. The first draft EIS for the Newcastle RMP was issued September 1993. We've decided, so that all interested persons would have had an equal opportunity to review and comment, we have decided to update the document and reissue a second EIS. We have done now to those who need there are copies in the back basically presents four alternatives to the

Newcastle Resource Area. Public lands include not only the federal land service administered by the BLM, also the federal mineral land from the first draft. We took all the comments and the draft itself and came up with 11 concerns from that process. And out of those 11 concerns we've developed four major issues.

The concerns are, number one, Lance Creek fossil area, ACEC proposal. Number two, interperative provisions as to the fossils on BLM administered public lands in the Lance Creek fossil area. Number three, BLM responsibilities on state lands. Number four, interpretation of livestock grazing as a surface disturbance. Number five, proposal to establish the state line special recreation management area and the possible detriment to all interest and uses in the area. Number six, access to BLM administered public lands is lacking and whether or not to increase access to public lands would adversly affects private lands and private landowners. Number seven, whether or not the BLM administered public lands in the resource area need more identifying signs. Number eight, public land sales, exchanges are too consuming and costly. Number nine, whether or not federal oil and gas leasing should be more restrictive. Number ten, whether or not policy changes in the wild and sceenic review process will change the outcome of the review threatened and endangered or species.

Must have lost count. Supposed to be 11. I only come up with 10 here, but I have given you a copy of it -- of the concerns.

Out of those concerns we developed four major issues. They are number one, retention or disposal of public lands. Number two, surface disturbance. Number three, special management areas. And number four, control of prairie dogs on BLM administered public lands.

The formal comment period for the second draft of the EIS began on April 24 of this year and ends July 23. Written comments are welcome and you can send them to our office. As I mentioned earlier, we've made some available copies for anyone who doesn't have a copy in the front.

We've developed some ground rules for the presentation, but I think that we can maybe be a little flexible with that. We didn't really know how many people would come tonight.

First ground rule for this presentation would be one person speak at a time. And I ask that anyone who gives testimony would please come up front here and do so. Secondly, ask that you give your name and who you represent, whether you are representing yourself or an organization. If we had quite a large crowd, we were probably going to limit comment to one representative per organization and then if we had time, come back and let other people do so more. But from the looks of things, I think we can probably entertain all of the comments tonight. And again, we are going to set a time limit at this point in time. You know, go ahead and make your comment. If it looks like we get quite a few people in, we might have to set a time limit on how much time is available.

And I guess the last thing is that everyone please sign in. There is a sign-in book at the back. And again, if there is more time, we can let people talk, give comment again. And kind of looks like people sort of wondering in. So maybe if other folks come in, I might go through this again if people think we need it.

But again, the purpose of this is to allow you to make comment. So at this point in time we could go in order of the people who came in and signed the book.

So the first person I think -- Darryl, are you the first one? Sorry? You are welcome to make comment.

MR. JOZWIK: Darryl Jozwik with American Coal Company. I just had a couple of real small comments.

In appendix E, as far as mitigation for surface disturbing activities, there is some items in here. Such as you don't want any disturbance within 500 feet of surface water or riparian area. And in here it says that you can get in exception waiver or modification of this limitation approved in writing. And I was just wondering that could be spelled out a little bit better as far as whether a permit or included within a plan of operations. Something along that line.

Then the only other comment that I had was dealing with the -- let's see if I can find it in here. When your dealing with the special status plant species, it says in here a search for the species would be required before allowing the surface disturbing activities. And I guess if a guy could get a little bit more what type of search would be required and by whom.

And those are the only comments that I

had.

Thank you.

HEARING OFFICER JOHNSON: Thank you. Next? Next? You ready.

MR. HARSHBARGER: Well, I guess I can be.

HEARING OFFICER JOHNSON: We have plenty of time right here.

Need to come up here and you can take more than five minutes.

MR. HARSHBARGER: Well, okay.

I'm Robert Harshbarger, rancher and president of the Weston County Farm Bureau. And I represent myself and members was my farm bureau.

First off the great improvement from the draft of 19 --

HEARING OFFICER JOHNSON: '93?

MR. HARSHBARGER: '93. I was going to say 1906.

So I have gone through and highlighted some things. So you might bear with me. And if I can go from the table 2-1, and I will try to be as brief and just make what my impressions are and so on, and get the started here.

The first one that I have where I would like to suggest a change would be in the fire management. You have restoration of burned areas would be any natural succession unless a special need is identified to prevent special resource damage.

I would like to see alternative B put in preferred alternate on this thing which says restoration of the burn areas would emphasized, restarting vegetative cover and prevent erosion that the plant species move into -- in other words we have a burned area and we really need the resource, we need help to get the resource started again. Particularly any area where we only have 12 inches of or less of rain fall a year needs some help. I don't mean you got to go out and water it. Species have been added possibly.

Next one is on we don't have a page here for resource management. This is under -- to maintain diversity and the old growth after the forested areas on public lands would be managed to maintain approximately 5 percent old growth.

I guess where I am coming from, I would just as soon see it stay under the no action alternative where old growth, the public service would not be maintained. And again this sort of follows what the Black Hills National Forest on their skaggs or dead trees and so forth. I believe that's a little bit high percent, not saying we don't need skaggs or we don't need dead trees, but I think that 5 percent might be high.

This is under the geology and mineral resource management. And your paleontology there is quite a long paragraph. Let's see, assessment, mitigation of impact to those resources might be required on that, the concordance with BLM policy. And if suspected fossil materials are the unoperated would be required to stop immediately.

But anyway I like alternative B on complete inventory identifying formations be completed for the entire area and anything that's planned before we even suggest that they can come in and start digging that we get on that point there. Lands and royalty and management public land surface only.

Utility management actions, utility transportation system would be located adjacent to transportation systems whereever practical. I would like to move again going to alternative B and use utility course would be established on BLM administered public surface to include as being existing facilities as possible future right of ways would be routed through corridors whereever possible.

And if I know where I am coming from in

regards current railroad problem that they maintain -- that they use the current. Anyway I think that alternative B is little bit stronger on that aspect.

On still water lands and royalty management as an alternative determined on case-by-case basis alternative easements would be pursued to provide access to public lands to support the objectives of other resource programs. Again I like alternative B, no attempt would be required to gain additional access to public lands as private landowner that the public lands within the ranch. We have to work things out, you know, but from that for access to public land. I would like alternative B. Livestock grazing and management on public lands surface only under your management actions. The authorized grazing use on the BLM administered public land surface would not exceed 48,818 animal units per month.

Having set in -- the last year -- on the BLM the grazing thing, the Resource Advisory Counsel developed and so forth and as our programs move forward. And we when I say we, all of us as land managers pursue and develop our resource which is the forage and we improve it. I think that the time will come that we will be able to increase AUMs. And I am of the opinion that in cases as we go on through here where we have in Metal Creek recreation, whatever it is, where we are going to lose some AUMs. What I am saying there should be no net loss of AUMs on the federal lands at this time. And I think down the road the direction that we are going -- you people are going and we ranchers are going, I think that with the little bit of ingenuity and as we become more educated and so forth, that our lands will be able to sustain and have more AUMs. And we will not be degrading the system at all.

So I have a put questionmark there. You don't have any other alternatives, but I have a questionmark and I think that they can be increased, so not tomorrow, but down the road some time.

I still have livestock grazing and management of course, we are going to get into the prairie dog area. Having close to a quarter of my ranch infested with prairie dogs both on my private land and on federal lands both the national grass lands and BLM lands within the ranch boundaries, I find it very hard to say that we are going to say no control. There would be no control of the size of the prairie dog town on public lands unless that the

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human health and safety threatened. So you have that in there. But alternative three, prairie dog towns would not be allowed to exceed the size of the town as of October one of '92.

This is how I do I want to put this, but I called it my range land enhancement program, going on with ranches and this summer we have a number of recreational shooters on the ranch. And for this is our seventh summer now. And for the first five summers -- four summers I thought we had stabilized our prairie dog towns and population. The last two summers and springs have been very good grass years. I am having another good grass year this year and my prairie dogs population is exploding and they are moving. They are moving Beyond the towns and there. One thing, they are coming into my hay meadows which is not to my best interests. And I don't know where I can bring in more range hand enhancement personnel. We are pretty well booked solid for our period of time which will run this program from Memorial Day through Labor Day. So I, in essence, have been managing my prairie dog population this past year because these folks give our ranch what I word, cash flow during the period of time that we do that. Otherwise don't generate cash for the ranch. It's been working out very good for us. Working out very good for the recreational shooter.

That was another thing I did notice and I may have missed that in your draft for this document here that came out a couple of three years ago. You mention that recreational shooting would not be considered as a source of control. And I would like to see that remain in this document here. And as we talk about that, the clientele that I have coming in, we know what they are doing -- we know that they are selective and we know that they were careful and -- versus the other means of control, which is basically poisoning of them which is nonselective of the species.

And so now I could probably let people come in late March and April, and then work on the breeding stock and I wouldn't have the population that I have now at this particular time, which is expanding only me. But again, doesn't fit into our ranch activities or ranch needs at that time to have people there at that time of the year.

So one other thing that I have done, I only did it last year. I have started put nesting boxes out on the range. We put up three last year. I had an troop of Boy Scouts come out and stay on the ranch for a week. And this was their nature project was to build and put up these nesting platforms hopefully for the hawks.

And as of this year, we didn't have any takers. I do think that this is a very viable type of management. It's a natural management. And I would like to see federal agency work on this as a means of helping control this population. And we benefit two things there with the ~~Vergoness~~ Ferruginous Hawk. As you know, is a ground nester, but a platform is available to them, they will nest on them. And in my area along the Cheyenne River they do to some degree nest in the trees. Mainly the Red Tails and the Golden Eagles nest in the trees. But the ~~Vergoness~~ Ferruginous Hawk being a ground nester is subject to presentation to whatever critter comes along and disturbs its nest.

And my background on this and my son is a biologist environmental specialist at Bridger Coal Company in Rock Springs. And he has a very successful rate on his nesting boxes over there. And so I have been getting some help and advice from him. And he said it might take two or three, four years before we get some of these things to take it, but the ~~Vergoness~~ Ferruginous Hawk young hatch at the same time that the young prairie dogs are emerging from the dens or the boroughs, and so that's the way that nature --

So any way I think that would be very positive thing for maybe from the public relations standpoint, if nothing else, we would accomplish two things.

So I think we are going to have prairie dog control. And if we wait -- if you wait one year for surface damage, or forest damage, or range land damage, the way that they move in, with the rapidity that they move in, while you have waited to the point that if you are going to cut them back and hold them in check, why you would have to use the poison. And personally I think that the poison is very expensive and highly ineffective.

We've done a little bit on our place a number of years ago. I think we just threw $700 down the drain because it just didn't do a bit of good. That's been my experience with it. And we go on.

I've covered quite a bit on this thing. I won't belabor it any more. I have a few prairie dog towns on public lands. I again go to alternative B where new prairie dog towns would not be allowed to be become established on public lands.

I have gone over five minutes, Gary.

HEARING OFFICER JOHNSON: Yeah. I think what we can do is -- how much longer do you think that you will be?

MR. HARSHBARGER: Let's see.

HEARING OFFICER JOHNSON: What I was going to suggest if you think that you are going to be quite a while, there are some other folks, maybe you could --

MR. HARSHBARGER: I think I am about at the of it here. I got my train of thought going.

HEARING OFFICER JOHNSON: Okay.

MR. HARSHBARGER: Basically I think that everything wildlife habitat and management no BLM authorized actions will be allowed that would disrupt animals on identified crucial range on 1 November to 30 of March unless approved by the authorized officer and reference to map 316.

Alternative B says no BLM authorized actions would be allowed that would disrupt animals on identified crucial winter range. And I don't necessarily -- they both say about the same. Alternative B is preferred. So I don't know why I marked that.

Basically that's the extent of my comments and I want to emphasize no loss of AUMs under any circumstance. And I think about as our range lands improve, which they are doing, let's think about upping the AUMs. And let's really be very conscious of the prairie dog problem. And for many, many landowners and for the federal surface itself.

Thank you.

HEARING OFFICER JOHNSON: Thank you.

Leonard?

MR. ZERBST: Leonard. Leonard Zerbst, rancher in Niobrara County.

I guess the only thing that I have to comment about is endangered species on the Snyder Creek Drainage where I live. In '93, I guess it was on the other draft, we were in it then. I always thought that it was going to be taken off from it and I have seen no one out checking on anything to verify why we weren't in it or why we were in it.

In the last five years so I guess when I got the new draft, that I thought that we would be out of it and we weren't. So I guess that's my comment on why we are still in it? And I have -- you know, nobody has contacted us why we were originally put it in it or why we weren't taken out of it. And so that's basically my question.

And I do appreciate the new water well I

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got.

Thank you.

HEARING OFFICER JOHNSON: Next.

MR. REED: I am Jeff Reed representing Reed Ranches.

First I would like to commend the BLM for rewriting this second draft. It's a much more readable and understandable draft. It's not near as contradictive as the first draft. Probably 90 to -- I figure 90 percent of this draft is probably a more workable solution for most people.

My biggest concern is this map 3-19. These designated species areas, one of them pretty much engulfs our whole ranch. This one on Snyder Creek, map 3-19, it is presenting the entire ranch and applies to the BLM lands within the RMP map 3-19. Also to differentiate between BLM administered public lands and any other lands surface ownership as it is now it appears, that's all marked lands regardless of ownership are to be designated a proposed T&E.

Map 3-19 then leads one to believe these are the only areas within the RMP that needs to be classified as potential T&Es. It seems that the T&E, species unwarranted by the designated areas in the split state lands RMP should be treated the same.

There is no proof that these species are more prevalent where it is designated on map 3-19 than it is anywhere else. According to the RMP on page 116 it says these species, the Black Footed Ferret, Peregrine ~~Parderine~~ Falcon, Bald Eagle may occur in this resource area. It also goes on to say that no confirmed sightings have been made of Black Footed Ferret in the last 10 years, but some unconfirmed sightings have been made. This kind of evidence is laughable.

I don't agree that information based on unconfirmed reports should be used to base a decision that certain areas be listed as potential endangered or threatened species areas. It goes onto suggest that suitable habitat does exist for these species.

As for the Bald Eagle and Peregrine ~~Parderine~~ Falcon, there is no truth to the single areas on 3-19 for these species throughout the resource area you could run into these species anywhere. There is just no basis for this proposal on map 3-19. I would like to see your evidence that proposes otherwise. This is an article from the Washington Associated Press endangered species to be reduced by 29. Many species that are covered be removed in the law. Proposal to remove species is to occur for the first time in 25 years, that such a large number of species would be earmarked for removal will from the endangered list, Mr. Babbitt said, that prompted such species as Peregrine ~~tangerine~~ Falcon, Bald Eagle.

This is one more example of misinformation in map 3-19. If that statement is true, there is no need to designate areas within the map for these species as all areas within the resource area would be handled under the same guidelines as mentioned in the RMP.

In conclusion, marked areas within the RMP map 3-19 could possibly have severe financial and economic impact to landowners with land set inside these specific areas. I would reiterate that these marked areas are not necessary because according to the guidelines outlined in the RMP, land will be managed the same. I feel that financial hardships could be caused from future sales from any lands for potential endangered habitat areas, who would want to buy lands in an area such as that?

This map right here is misleading and should be reevaluated and totally rejected.

Thank you.

HEARING OFFICER JOHNSON: Appreciate everyone's comments. We are going to keep this open until 8 o'clock and you are welcome to stay as people come in we will give them the opportunity to comment.

(Pause.)

HEARING OFFICER JOHNSON: Can we kind of come to order again.

We have some more people here who would like to give comment. So I guess question is, is every signed in?

And my next question is, are you all in one group?

VOICE: Basically individuals.

HEARING OFFICER JOHNSON: Okay. Well, it's supposed to go to 8 o'clock, little longer than that.

Would you want to give your comments? Do each one of you want to give a comment individually or do you want to give it as a group?

VOICE: Will it carry the same weight as a group as it would as individuals?

HEARING OFFICER JOHNSON: My sense of this is, if it's on the same subject, I would then -- probably it would, but you know, you are certainly welcome to give individual comment. I guess to try to prevent too much repetitiveness. I don't know if it carry more weight, but it's up to you.

VOICE: Bob, since you read the plan, what do you think about talking.

MR. KREGGER: Thanks.

HEARING OFFICER JOHNSON: Can you go ahead and talk if someone feels like there is some more information, you are welcome to come on up. So you can come on up.

MR. KREGGER: That's what I was afraid you was going to get me to do is get me up front.

My name is Robert Kregger, K-r-e-g-g-e-r. I am a business owner here in Newcastle. I am also part of the archeology group here in town.

And I read the report as much as I could understand of it, getting around the lawyer language, shall we say. And I think that I on the whole agree with what they are trying to do as to protect the sites up to a certain point, as to where there is studies done instead of just letting people run rampantly over them. Instead of taking everything away so there is no research done.

I think that the reports after the final draft is figured out, I think it needs to be put in plain language and put out for the education of everybody.

I can't think of anything else I need to say right at the moment.

HEARING OFFICER JOHNSON: Okay. Thank you.

After hearing him talk, does anyone else wants to add more comment? You are certainly welcome to.

MS. CAPSON: I am Mary Capson. I am a --

HEARING OFFICER JOHNSON: Do you want this on the record?

MS. CAPSON: Yes. In northeast Wyoming.

HEARING OFFICER JOHNSON: Come up if you would please, give your comments.

MS. CAPSON: Okay. I am Mary Capson. I am a member Ancient Trails of North Wyoming Archeological Society.

I have not had an opportunity to read that thing except to peruse it very briefly. We're here as a group tonight because we're concerned with preservation of archeological sites in the entire area.

Do you have anything to add, Sherry?

MS. BURGESS: My name is Sherry Burgess.

HEARING OFFICER JOHNSON: One of the things that I have tried to establish is ground rules.

Anyone talks, please come up front.

MS. BURGESS: I am Sherry Burgess. I am from Sundance. My name is I am president of the local society here. I am also the state president.

I have not had an opportunity to read this, so I don't feel really comfortable speaking, other than to note that one of the sites that the BLM has influence on is Whoopup ~~Hoopup~~ Canyon. And this particular site is very fragile and therefore protection of this particular area is extremely important to us.

HEARING OFFICER JOHNSON: Thank you.

MS. CAPSON: When does the comment period end?

HEARING OFFICER JOHNSON: July 23.

MR. HANSON: Yes, that's correct.

HEARING OFFICER JOHNSON: Encourage you all if you have written comments and submit into the office and talk to us. And take one of those with you.

Anyone else of the group that would like to add?

The purpose of this comment period is to allow people to give comments. Certainly invite you to give comment if you would like.

Anyone like to add my more?

MS. BURGESS: I wanted to ask a question of you.

How long will they have after this finally is put together on this thing to find out whether or not we have something that we have some disagreements with?

MR. HANSON: That record is going to be published approximately March of 1999 and that will be our guiding document. That's the process that we are currently going through will culminate with the record of decision.

What would be recommended is that the review of this and comments prior to July 23 would significantly assist the formation of the record of decision. That's about a month and a half is what we're looking at for the remaining 90-day comment period.

MS. BURGESS: Even when the record of decision is finalized in '99 there is also a 30-day protest period of that comes outs so that the public have a --

MS. CAPSON: That's what I was trying to find out.

MS. BURGESS: Rights.

HEARING OFFICER JOHNSON: Anyone else like to give comment.

(No response.)

MR. HANSON: We have additional copies if somebody would like to --

HEARING OFFICER JOHNSON: One other thing that, again, we try to encourage is at the office, any time you have opinions or feelings about how we manage the lands, we certainly invite and welcome you to talk with us at any time.

The purpose of this hearing tonight was intended to receive comment on the RMP, but certainly invite you any time that you have an issue or opinions about the way that we manage public lands.

Any other comment while we still have the court reporter here?

MS. KREGGER: I am Angie Kregger and I am with archeology group here. Also the director of the museum.

My concern is that just the protection, especially of ~~Hoopin~~ Whoopup Canyon and sites like that. The main issue is that they be protected and not exploited for purposes that are aren't to their best interests. And that's my main concern for those sites.

HEARING OFFICER JOHNSON: Real quickly one other thing that I forgot to mention is that we have another BLM person in attendance Alice from the BLM, archeologist.

Any other formal comments that you would like to make while we have the reporter here?

(No response.)

HEARING OFFICER JOHNSON: We said we were going to conclude at 8 o'clock and according to my watch it's one minute to 8:00.

Give you one last opportunity if you do want to add. If not, there is some people who have already left, but I certainly want to thank everyone for coming. Apologize a little bit for our accommodations. We had planned this and we had planned to have it at our office. And our office is being repainted and recarpeted right now. So we had to make these arrangements at the last minute, but the people that made them did a very good job with the short time period that we have.

If there is nothing else, we will go ahead and close the succession.

(The proceedings were concluded at the approximate hour of 8:00 p.m.)

STATE OF WYOMING)

) ss

COUNTY OF LARAMIE)

I, Gust J. Hatanelas, hereby certify that the foregoing transcript of the proceedings is a true and correct transcript of the taped proceedings.

[illegible] [illegible] [illegible] [illegible] [illegible] [illegible], [illegible].

comments, comments on the record, anything.

MR. JOHNSON: I am Vern Johnson.

HEARING OFFICER JOHNSON: Vern, can you come up here?

MR. JOHNSON: I was going to say that I was against the ACEC. That's my only comment. I am against. Vern Johnson from Weston County line.

HEARING OFFICER JOHNSON: Very good.

If he other people want to do that?

Donna, you might have them indicate that they were a property owner.

HEARING OFFICER JOHNSON: Okay.

For the record, property owner, yes.

HEARING OFFICER JOHNSON: Okay.

MR. BAYNE: I am Gary Bane, B-a-y-n-e. I am an oil field contractor here in Niobrara County.

I am against the ACEC designation for the industry that I'm involved with. So --

HEARING OFFICER JOHNSON: Okay. Thank you, Gary.

MR. LORDKAMMER: Lewis Lordkammer, my ranch lays right in the middle of the designated ACEC -- proposed ACEC. And I am opposed to it.

MR. PETERSON: Tye Peterson. I am a land owner in the ACEC and I am opposed to it.

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APPENDIX A
SPLIT-ESTATE LANDS

OVERVIEW

In Wyoming, the BLM manages approximately 11.6 million acres of federal minerals under private surface, usually referred to as split estate. Of this total amount, some 8.5 million acres (approximately 72%) lie within the Casper District of the BLM. The majority of this split estate resulted from the Act of July 17, 1914, as amended, (30 U.S.C.§ 121,122) which opened prior withdrawn federal mineral lands to nonmineral entry, more specifically, the appropriate Homestead Acts (HA), and the Stockraising Homestead Act (SRHA) of December 29, 1916, as amended, (43 U.S.C.§ 299).

By the late 1800s much of the public domain lands had been transferred to private ownership either by sale or homesteading. The annual report for 1882 from the General Land Office pointed out that companies had fraudulently acquired great quantities of valuable coal and other lands. In response to this and subsequent investigations President Theodore Roosevelt withdrew in 1906 more than 66 million acres of coal lands from settlement and location. Congress questioned whether or not the President had authority to do this. In 1910 Congress passed the General Withdrawal or Pickett Act giving the President power to "temporarily" withdraw public lands from settlement and location for public purposes.

In response to the uproar that this created with politicians, business people, and homesteaders President Roosevelt signed the Act of March 3, 1909 which allowed homesteaders who had settled coal lands to patent those lands as long as the coal was reserved to the United States. The act of June 22, 1910 permitted homesteaders to file for coal lands as long as the coal was reserved to the United States.

The mineral policies were extended to reserving portions, or in most cases, the full mineral estate to the United States by the Act of July 17, 1914. That Act opened lands that were withdrawn or classified for phosphate, nitrate, potash, oil, gas, or asphalic minerals or are valuable for those deposits to entry under the appropriate HA. Finally, the SRHA reserved all minerals to the United States.

As part of the mineral policies initiated during his Presidency, Roosevelt had advocated a leasing policy for coal and petroleum lands, but Congress resisted the idea. In 1917, potassium deposits could be leased with the enactment of the Potash Leasing Act, which was passed because potassium was essential to America's production of military explosives during World War I. After numerous proposals and much heated debate in the congress, the Mineral Leasing Act (30 U.S.C.§ 181 et seq.) was adopted in 1920 and extended leasing to coal, petroleum, natural gas, sodium, phosphate oil shale, and gilsonite. Under the appropriate provisions and authorities of the Mineral Leasing Act, individuals and companies could prospect for and develop the minerals listed.

Discussed in this appendix is what authority BLM has to condition and regulate federally authorized leases, specifically oil and gas, on split estate and the policy and guidance used to accomplish this.

The BLM is mandated by the Federal Land Management and Policy Act of 1976 (FLPMA), section 202, to develop, maintain, and revise land use plans on public lands where appropriate using and observing the principles of multiple use and sustained yield. Section 103(e) of the FLPMA defines public lands as any lands and interest in lands owned by the United States. The mineral estate is an interest owned by the United States. BLM has an obligation to address this interest in their planning documents (43 CFR 1601.0-7(b); Bureau Manual 1601.09).

The FLPMA is intrinsically tied to the mandate provided by the National Environmental Policy Act of 1969 (NEPA). Specifically, section 102 of NEPA states, "Congress authorizes and directs the federal government and its agencies to use a systematic interdisciplinary approach which insures the integrated use of the natural and social sciences and the design arts in planning and decision making where man has an impact on man's environment." This theme is also present in section 202(c)(2) of the FLPMA where, as with NEPA, it recognizes that management of the public lands and resources (interest) and the consequences associated with their use or consumption are tied to biologic, ecologic, social, and economic boundaries and not merely surface boundaries.

Through the years, from the planning stage through development of the mineral estate, two areas of concern have consistently arisen from this split-estate issue: does the BLM have the statutory authority to regulate how private surface owners use their property, and does the BLM have the authority to condition and regulate federal mineral development such as a federal oil and gas lease. These two concerns have been addressed in the resolution of two RMP protests in 1988 on split estate (North Dakota RMP and Little Snake RMP) and two Washington Solicitor's Opinions (April 1 and 4, 1988). The conclusion states, "In summary, while the BLM does not have the legal authority in split estate situations to regulate how a surface owner manages his or her property, the agency does have the statutory authority to take reasonable measures to avoid or minimize adverse environmental impacts that may result from federally authorized mineral lease activity."

An example of this authority is a January 7, 1992 Interior Board of Land Appeals (IBLA) Decision (122 IBLA 36, Glen Morgan, January 7, 1992) which stated "The operator of an oil and gas lease is responsible for reclamation of land leased for oil and gas purposes, even after expiration of the lease and even where the surface estate is privately owned. Such reclamation includes the restoration of any area within the lease boundaries disturbed by lease operations to the condition in which it was found prior to surface disturbing activities." Another key point that was presented in this IBLA decision referenced the reservation of mineral reserves under section 9 of the SRHA. This section provides that reserved to the United States is the "right to prospect for, mine, and remove the [reserved minerals]," which right encompasses "all purposes reasonable incident to the mining or removal of the coal or other minerals" (43 USC §299, 1988). As long interpreted by the Department of the Interior, such purposes include reclamation of the surface of the affected land after mining is complete and the minerals are removed.

AUTHORITY

The Mineral Leasing Act of 1920 (MLA)

The Mineral Leasing Act, as amended (30 U.S.C. §§ 181-287) and its implemented regulations are the authority to lease and produce federal minerals. The restrictions identified through the planning process and attached to federal oil and gas leases constitutes a legal contract between the lessee and the BLM. No other party can change that contract without the expressed consent of the authorized officer. The authorized officer may waive, modify, or amend lease conditions as site-specific analysis dictates.

The section of the MLA that specifically refers to the regulation of surface-disturbing activities on oil and gas leased lands is found in 30 U.S.C. § 226(g), 1988. The key statement which does not distinguish between public surface and split-estate surface but applies to all leases is, " The Secretary of Interior, or for the National Forest lands, the Secretary of Agriculture, shall regulate all surface-disturbing activities conducted pursuant to any lease issued under this chapter, and shall determine reclamation and other actions as required in the interest of conservation of the surface resources" (emphasis added).

It has been cited that Onshore Oil and Gas Order #1 of 1983, "Approval of Operations on Onshore Federal Land and Indian Oil and Gas Leases" is the final resolution to the split-estate mineral issue. The order has sometimes been interpreted to mean that BLM has waived all or many of its responsibilities during the development of the federal oil and gas where split estate is involved. The order does not rescind or revoke any of the law or regulations including the MLA that inspired it. Furthermore, this order cannot revoke any other BLM responsibility or obligation specified elsewhere in laws or regulations, again including the MLA.

The following are the laws and executive orders in addition to the MLA that pertain to split-estate federal mineral authorizations. They are not all inclusive; new laws and amendments are passed frequently.

Federal Land Policy and Management Act of 1976 (FLPMA)

BLM is responsible for both considering the impacts of its actions and approvals in land use planning as well as for managing those impacts for public lands. The public land to be considered for split estate is the mineral interest and not the surface. The private surface is not public land; thus, it is not subject to the planning and management requirements of the FLPMA. BLM has no authority over use of the surface by the surface owner. BLM is required to declare how the federal mineral estate will be managed in the RMP, including identification of all appropriate lease stipulations (43 CFR 3101.1; BLM Manual Handbook, H-1624-1, IV.C.2). To be consistent with the requirement of the FLPMA, it is necessary to apply the same standards for environmental protection of split estate lands as that applied to the federal surface (BLM Manual 3101.91 B.1). The FLPMA also provides in Section 202 that the BLM " shall provide for compliance with applicable pollution control laws, including State and federal air, water, noise, or other pollution standards of implemented plans." Many of these laws are addressed later in this document.

National Environmental Policy Act of 1969 (NEPA)

BLM's responsibilities on split-estate lands under NEPA are basically the same as for federal surface. Even though the impacts will occur on private surface, BLM is still responsible for considering alternatives or imposing protective measures since the impacts will be caused as a direct consequence of activities approved by BLM and conducted pursuant to a federal oil and gas lease. Mitigation measures for impacts which are identified during the NEPA analysis may be imposed under

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the general authority set out in sections 30 and 37 of the MLA of 1920 (30 U.S.C. §§ 187 and 193) and the policy of FLPMA. Other statutes that could apply for taking reasonable measures to avoid or minimize adverse environmental impacts that may result from federally authorized mineral lease activities are: the Clean Water Act of 1977 (CWA), the Clean Air Act (CAA), the National Historic Preservation Act (NHPA), the Endangered Species Act of 1973 (ESA), and the Federal Onshore Control and Reclamation Act of 1987 (FOCRA). The FOCRA specifically requires BLM to regulate surface disturbance and reclamation on all leases. With respect to offsite impacts which also could include off-lease, off-unit, or off-original patent boundary, mitigation must be considered and met in order to approve a lease action regardless of whether the surface is private or federal. The legal jurisdictional boundary (the lease boundary) and access to such will be discussed in more detail in the section "Access to Split Estate to Develop Federally Owned Minerals." If an operator cannot mitigate impacts of jurisdictional boundaries for lease development, BLM gives careful consideration as to whether the application could or should be approved. Also, before leasing the mineral estate or approving lease development, BLM determines whether that action would significantly affect the quality of the humane environment regardless of the surface ownership. In this analysis, BLM considers all impacts, even visual, of the proposed action whether those impacts are to surface resources, to use of the land by the surface owner, or to the subsurface. BLM also takes into account the views of the surface owner and what effects implementing the mitigation measures for lease activity would have on his/her use of the surface.

National Historic Preservation Act (NHPA)

Section 106 of the NHPA requires the BLM to consider the effects of its actions on historic properties and to seek comments from the State Historic Preservation Officer and the Advisory Council on Historic Preservation (BLM Manual Section 8143.06). In fact, federal agencies are required to take into account the effect of any federally assisted or federally licensed undertaking on properties included on, or eligible for inclusion on, the National Register of Historic Places. These responsibilities are the same on split-estate land as on public land (BLM Manual 3101.9). The 1992 amendments to the NHPA replaced the definition of "undertaking" in Section 301 of the Act as follows,

> "Undertaking means a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a federal agency, including:
>
> (A) those carried out by or on behalf of the agency;
>
> (B) those carried out with federal financial assistance;
>
> (C) those requiring a federal permit, license, or approval; and
>
> (D) those subject to State and local regulation administered pursuant to a delegation or approval by a federal agency."

If activities to be conducted on split estate under the terms and conditions of a federal oil and gas lease would result in adverse effects to historic properties, BLM has the authority to impose appropriate avoidance or mitigation measures. Currently, the BLM Authorized Officer consults with the State Historic Preservation Officer (SHPO) to identify and evaluate historic properties that might be affected, to assess effects, and to determine satisfactory means for avoiding or mitigating adverse effects. The Advisory Council is then given the opportunity to comment only if listed or eligible properties would be affected. This process is explained in more detail in a current agreement between the Advisory Council, SHPO and BLM (regulation guidance is found in 36 CFR 800).

BLM Manual 8100 (including the Wyoming manual supplements) contains guidance, policy, and the extent that BLM is responsible on split estate. It also indicates direction when access is denied to an operator or BLM personnel in determining effects pursuant to the NHPA. Key points in the manual are that: a) any historic properties encountered belong to landowner and if the landowner wishes, any cultural material removed from the property would be returned after study; b) the Authorized Officer must consider alternatives if the landowner continues to refuse access for cultural resource work, including the feasibility of relocating the project; and, c) the Authorized Officer may also consider approval or denial of the application without the cultural resource information. The other avenue for access is by way of the courts and is addressed under "Access to Develop Federally Owned Minerals."

Endangered Species Act of 1973 (ESA)

Section 7 of the ESA requires federal agencies, in consultation with the Secretary (currently delegated to the US Fish and Wildlife Service) to ensure that no action authorized, funded, or carried out by the agency is likely to jeopardize the continued existence of a threatened or endangered species, whether plant or animal, or would result in the destruction or adverse modification of a species' critical habitat. ESA requirements apply to oil and gas leasing and operations on split estate just as they do to federal lands (Onshore Order No. 1: 43 CFR 3164.1).

A proposed surface-disturbing federally related action cannot and must not be approved until all applicable federal statutory requirements have been met.

OTHER STATUTES AND EXECUTIVE ORDERS

Clean Water Act of 1977, as amended (CWA)

This act is an extremely complex and lengthy statue but is a key law regarding the control of toxic substances. It requires the BLM to participate with the state and other federal agencies in water quality planning and permitting activities. It was amended by the Water Quality Act of 1987 to require states to assess their rivers, streams, and lakes and to develop nonpoint source management plans to control and reduce specific nonpoint sources of pollution. It required federal agencies to be consistent with management programs. The 1987 Act added section 402(p) to the CWA to address storm water discharges under the National Pollutant Discharge Elimination System (NPDES) system. The discharge of any pollutant to surface waters of the United States is regulated by issuing a NPDES permit. This permit establishes effluent limitations and monitoring requirements for discharges. Oil and gas exploration and production (E&P) wastes discharged to surface water requires these permits. In 1990, the Environmental Protection Agency (EPA) published regulations requiring all storm water discharges associated with industrial facilities to obtain NPDES permits. Industrial discharges included construction projects where five or more surface acres are disturbed. Oil field development (surface disturbance) could be included in this definition. The State of Wyoming, Department of Environmental Quality (DEQ) has been delegated this responsibility from EPA of administering and issuing permits for this program. In order to meet the demand and number of permits, DEQ developed a single generic permit which was issued to cover a large number of similar facilities within a geographic area. EPA granted DEQ primacy for general permits in 1991, and in 1992, DEQ issued its general permit for storm water discharges from construction activities.

Another portion of the CWA, amended by the Water Quality Act of 1987, that warrants discussion is section 404. In oil and gas surface-disturbing activities, section 404 must be complied with. This section covers all discharges of dredged or fill material into waters of the United States including lakes, streams, intermittent waterways, and wetlands. Certain categories of activities, including certain oil and gas surface-disturbing activities, could be permitted under a current nationwide permitting system. In the Casper District, the most frequent need for a 404 permit in oil and gas development is in road and pipeline construction through wetlands. Many professionals within the Casper District have been given training in identifying these wetlands; however, the authority for identifying and delineating wetlands lies with four federal agencies: Army Corps of Engineers (CE), EPA, Fish and Wildlife Service (FWS), and Soil Conservation Service (SCS). However, all activities affecting a riparian-wetland area which result in the discharge of dredge or fill material require a permit. In the Casper District, this is issued by the CE located at 504 West 17th Street, Cheyenne, WY 82001-4348, (307) 772-2300. Other permits are required when a 404 permit is needed. An example is a 401 permit (Water Quality Certification) from the DEQ. This is required before a 404 permit can be issued by the CE. This 401 certification is intended to demonstrate that the project will comply with state water quality standards and other requirements as may be imposed by the state.

Clean Air Act of 1955, as amended (CAA)

The act states that BLM and its permitted actions must comply with national and State air quality standards. It also directs BLM to cooperate with the states in carrying out their implemented plans. The act also provides for the prevention of significant deterioration of air quality and places significant responsibility upon the BLM for the protection and, in certain cases, for enhancement of air quality and air-related values including visibility.

Executive Order (EO) 11988 of 1977, "Floodplain Management"

This EO states "direct or indirect support of floodplain development must be avoided whenever there is a practical alternative." BLM Manual 7221 states, "Long- and short-term adverse impacts on natural and beneficial floodplains functions associated with the use and modification of floodplains must be avoided, to the extent possible; and actions causing definable adverse impacts (long- or short-term) to the natural and beneficial floodplain functions must include protection, minimization of damage, restoration, and preservation measures." The 1979 manual guidance is somewhat outdated; it refers to unit resource analysis (URA), management framework plan (MFP), and some BLM planning and environmental assessment guidance more recently updated, but the basic processes and guidance are still applicable. The resource area plans within the Casper District do not contain floodplain identification. The guidance refers to the appropriate official (district hydrologist) to identify the base (100-year chance of a flood) and/or critical (500-year chance of a flood) floodplain in relation to the location of the proposed action. This identification must extend upstream and downstream beyond the boundaries of the proposed action far enough to permit an analysis of the impacts that the proposal may have on the floodplain functions beyond the project boundary. Also, the public must be afforded an opportunity to be involved in the decision making process for all actions within a floodplain or that may affect it. The difference in restrictions for addressing proposed actions within base versus critical floodplains is somewhat lacking. However, for actions within base floodplains, the BLM will make a determination whether the proposed action will be located there. In critical floodplains, only critical actions will be identified and analyzed according to the Bureau environmental assessment process. Oil and gas activity especially involving major surface- disturbing activity qualify as critical action and should be appropriately assessed within a critical floodplain. The guidance does not state that BLM cannot authorize actions within floodplains, but it does state that mitigation and restoration measures must be completed for each alternative considered.

Executive Order 11990 of 1977, "Protection of Wetlands"

This EO directs federal agencies to take action to minimize the destruction, loss, or degradation of wetlands. All federally initiated, financed, or permitted construction projects in wetlands must include all practical measures to minimize adverse impacts. Section 404 of the CWA (discussed above) is one of the permit processes to protect or minimize adverse impacts to wetlands.

Eagle Protection Act of 1940

This act prohibits taking any golden or bald eagle or nests of such birds. Taking is defined under this statute to include molesting or disturbing. Violation of the prohibition in 16 U.S.C.§§ 668-668d is a criminal violation regardless of where the activity occurs, whether it is on public land, National Forest lands, or private lands.

Resource Conservation and Recovery Act of 1976, amended (RCRA)

This law is used to regulate the treatment, storage, and disposal of hazardous wastes. Hazardous wastes are solid wastes that are listed or exhibit one or more of the characteristics of hazardous waste such as certain human toxicity criteria or contain one or more of 50 chemical compounds/substances that are listed as hazardous constituents. RCRA defines solid wastes as any material that is discarded or intended to be discarded. It can be solid, semi-solid, liquid, or contain gaseous material. Oil and gas E&P wastes with the enactment of an amendment to RCRA in 1980 are exempt from the hazardous waste management and disposal requirements (subtitle C of RCRA [Section 3001(b)(2)(A)]). They include drilling muds and cuttings, produced waters, and associated wastes (40 CFR 261). Generally, E&P exempt wastes are generated in primary field operations and not as a result of transportation or maintenance activities. When listed nonexempt and exempt wastes are mixed, the entire mixture could be considered a hazardous waste. For example, discarding a half empty listed solvent in a reserve pit could cause the otherwise exempt reserve pit contents to become a hazardous waste. This may result in closure of a reserve pit under RCRA hazardous wastes regulations. The amendment to RCRA also mandated EPA to study E&P wastes and recommend appropriate regulatory action to congress. EPA conducted the study and submitted the report to Congress on December 28, 1987. This regulatory determination was made public on June 30, 1988. A key portion of this determination follows:

> "The Agency plans a three-pronged approach toward filling gaps in existing State and Federal regulatory programs by:
>
> 1) Improving Federal programs under existing authorities in Subtitle D of RCRA, the Clean Water Act, and the Safe Drinking Water Act.[1]
> 2) Working with States to encourage changes in their regulations and enforcement to improve some programs; and,
> 3) Working with Congress to develop any additional statutory authority that may be required."

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[1] Nonhazardous wastes are regulated under subtitle D of RCRA. Subtitle D regulations are less extensive and depend primarily on state control.

Some of the reasons put forth by EPA for this determination are:

- "Subtitle C does not provide sufficient flexibility to consider the costs and avoid the serious economic impacts that regulation would create for the industry's exploration and production operations;
- Existing state and federal regulatory programs are generally adequate for controlling oil, gas, and geothermal wastes. Regulatory gaps in the Clean Water Act, and UIC (Underground Injection Control) program are already being addressed, and the remaining gaps in state and federal regulatory programs can be effectively addressed by formulating requirements under Subtitle D of RCRA and by working with the States;
- It is impractical and inefficient to implement Subtitle C for all or some of these wastes because permitting burden that the regulatory agencies would incur if even a small percentage of these sites were considered Treatment, Storage, and Disposal Facilities (TSDFs)" (53 FR 25456, July 6, 1988).

The Interstate Oil and Gas Compact Commission (IOGCC) is an organization comprised of the governors of the 29 oil and gas producing states and has been assisting states in developing their oil and gas regulatory programs since 1935. In January 1989, the IOGCC formed a council on regulatory needs to assist EPA in its three-pronged approach mentioned above to fill the gaps in regulations. This council is comprised of 12 state regulatory agency members and is supported by a nine-member advisory committee made up of representatives from state regulatory agencies, industry, and public interest/environmental groups. This council is also assisted by representatives from EPA, Department of Energy (DOE), and BLM who act as official observers.

The purpose of the council is to recommend effective regulations, guidelines, and standards for state-level management of oil and gas production (E&P) wastes. It is not intended to form the sole basis for any future federal statutory or regulatory authorities that may be sought by EPA for E&P wastes. In 1990 the IOGCC adopted guidelines in the form of technical and administrative criteria recommended by the council and advisory committee. This publication, *EPA/IOGCC Study of State Regulation of Oil and Gas Exploration and Production Wastes* is known as "IOGCC Guidelines" or the "Green Book." These guidelines were update in May 1994 with the publication titled *IOGCC Environmental Guidelines for State Oil & Gas Regulatory Programs*.

The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 as amended (CERCLA)

CERCLA, also known as "Superfund," and closely related to RCRA, is distinct and separate in that it mandates the cleanup of hazardous substances which encompasses a much broader range of products than does hazardous wastes defined by RCRA. It requires the potentially responsible party (PRP) to undertake cleanup (section 106) or to recover costs incurred in conducting remedial actions from PRPs (section 107). Hazardous substance means any element, compound, mixture, solution, or substance designated pursuant to section 102 of CERCLA.

CERCLA provides for the exclusion of petroleum, including crude oil, or any fraction thereof which is not otherwise or specifically listed from the definition of hazardous substances, contaminants, or pollutants (sections 101 and 104). This also includes natural gas, natural gas liquids, liquified natural gas, and synthetic gas usable for fuel. The legislative history of the petroleum exclusion in CERCLA indicates that although petroleum and any fractions thereof are exempt, hazardous substances that have been added to oil but are not normally found in petroleum at the levels added, are not exempt. EPA could respond under CERCLA to releases of added hazardous substances from E&P wastes. Several oilfield waste disposal sites that accept RCRA Subtitle C exempt wastes are now Superfund sites because these sites were not managed to prevent the release of hazardous substances. RCRA exemption does not release the operator of liability under CERCLA.

CERCLA can be applied retroactively to provide for strict liability without regard to fault, and in appropriate circumstances, to impose joint and several liability. This liability may ultimately be the responsibility of the landowner, who also has the option of using CERCLA as the legal basis to sue the responsible parties who abandon hazardous substances on their land. It has been interpreted that any such release which is defined in section 101 of CERCLA occurring on split estate be removed by the responsible party as provided by 43 CFR 3162.5-1(c) and Notice to Lessees and Operators of Onshore Federal and Indian Oil and Gas Leases (NTL-3A). It is further interpreted to expand the requirement by the BLM to federal oil and gas leases on split estate that any such release be removed in compliance with the regulations provided by RCRA for hazardous wastes and CERCLA for hazardous substances. **(This expanded interpretation is presently being reviewed by BLM's Washington Solicitor.)** The reasoning for this expanded interpretation is leasing and subsequent development of the federal mineral estate on split-estate land is a federal action controlled by federal regulation and applicable federal and state laws. The BLM is the managing agency for federal oil and gas lease development on split estate. Although it could be strictly interpreted that the BLM is not the ultimate responsible landowner (surface owner), there is a legal and moral interpretation that the BLM (the mineral estate manager) in leasing the federal minerals, is the ultimate responsible party if all else failed to secure retribution for damages and cleanup from the responsible operators/lessees. This would release the private surface owner(s) from any lease development liability of which they have no direct control. However, it would not release the private surface owner(s) from potential liability for a release of hazardous waste or substance that they authorized on their land that was not part of the federal lease development.

There is a multitude of players as well as laws in solid waste management; it is difficult to determine who to call or who is responsible for what. The key experts for the BLM are the hazardous materials specialists/coordinators. The regulations for hazardous substances and wastes are found in 40 CFR, and they are the enforcement domain of EPA. The DEQ is anticipated to be delegated primacy from EPA for the enforcement of the solid waste management regulations including those for hazardous substances and wastes. This delegation is anticipated to take place in October 1995.

The Department of the Interior has the following fundamental principles of waste management:

> "Wherever feasible, we will seek to prevent the generation and acquisition of hazardous wastes; where waste generation is unavoidable, we will work to reduce the amounts (toxicity or risk) generated through the use of sound waste management practices; we will manage waste materials responsibly in order to protect not only the natural resources entrusted to us, but the many people who live and work on our public lands, and the millions more who enjoy our lands and facilities each year; we will move aggressively to clean up and restore areas under our care that are contaminated by pollution."

ACCESS TO SPLIT-ESTATE TO DEVELOP FEDERALLY OWNED MINERALS

Any mineral lessee or operator (any person who has acquired from the United States the mineral deposits in such land) may enter and occupy as much of the private surface (patented) as may be required for the purpose of prospecting for mining or removal of minerals upon completion of any one of the following options (43 CFR 3814, 1994):

1. Upon securing a written consent or waiver of the surface owner(s) for lands covered by the federal lease and/or access to such lease over patented lands covered by the SRHA or HA estate or a single estate unified from several parcels originally patented under the above subject acts.
2. Upon payment of damages for crops, tangible improvements, and the value of the land for grazing purposes to the owner of the lands referenced in (1) above.
3. Upon the execution of a good and sufficient bond or undertaking to the United States for the use and benefit of the owner of the land referenced in (1) above, and to secure the payment of such damages for the crops, tangible improvements and the value of the land for grazing purposes of the owner as may be determined and fixed in an action brought upon the land or undertaken in a court of competent jurisdiction against the principles and sureties thereon.

For options 1 and 2 mentioned above, the BLM will require, at a minimum, a signed statement from the approved operator representative or the landowner that the operator/lessee and the landowner have reached an agreement for surface disturbance damages. The BLM also may require the operator/lessee to furnish any additional agreement with the surface owner for the protection of surface resources and the reclamation of disturbed areas for incorporation into conditions of approval for authorizing the action. If the agreement is not deemed adequate to protect both on and offsite damage to the lands, additional measures and mitigation will be required. If no agreement is reached, then the method according to option 3 must be followed. Under this method, a good and sufficient bond must be posted by the lessee/operator payable to the United States for payment for damages, specifically for crops, tangible improvements, and the value of the land for grazing purposes. Nationwide, statewide, and individual bonds should suffice for this coverage (BLM Manual 3104.1; Coquina Oil Corp., 41 IBLA 248, 1979; Theo R. Gassin, 55 IBLA 257, 1981). According to the procedures for this option, the lessee/operator must serve this bond on the affected landowner and serve proof to the appropriate BLM office that they have done so. This then prompts the BLM authorized officer to serve written notice (certified letter) to the landowner containing pertinent information about the proposed action and her/his right to protest. A copy must also be sent to the lessee/operator.

3/3

The protest period runs for 30 days from date of service by BLM. The emphasis in this section is on access within SRHA and HA patented land. This process for access also pertains to patents issued pursuant to section 203 (sales) and section 206 (exchanges) of the FLPMA.

The right to access an oil and gas lease includes all the land within the original patent even if that land is not within the lease. If an oil company wishes to cross one portion of a patent that has been subdivided into two portions to drill in the other portion, they have that right. In *Kinney Coastal Oil Co. v. Kieffer*, 277 US 488, 544 (1928), Coastal Oil, who held a federal oil and gas lease, sued the surface owner for subdividing the surface and erecting buildings for a town. The Supreme Court agreed with the oil company and ruled to prevent the use of the area as a commercial or residential area. Thus, the mineral owner's dominant servitude applies anywhere within the limits of the original patent no matter how far or often the surface estate has been subdivided. In another landmark case, *Mountain Fuel Supply Co. v. Smith*, 471 F. 2d (10th Cir. 1973), an oil company wished to cross 10 parcels to drill a well on the 11 parcel. All of the parcels have been patented at different times to different parties. At a later date, all of these parcels had been obtained by the defendant in this case. The court made no less than three significant holdings in this case. One, if the parcels had remained separately owned, the oil company would not have access rights across the 10 parcels to drill a well on 11; however, the company does have access rights on the 11th parcel on which they were to drill their well (471 F. 2d at 596,597). Two, where the surface ownership of all the parcels had been unified under a single ownership, the oil company would indeed have access across all the parcels (471 F. 2d at 597). Three, the approved unitization of the area by the appropriate authority was simply irrelevant (471 F. 2d at 597). The lessees were restricted to the development of their leases, or if appropriate, within a unit. The SRHA or HA access rights to develop federal mineral is dictated by the patented surface or a combination of patents unified by a single owner.

Following are three decisions options that may evolve in the protest period.

If no objections are received from the landowner within the protest period, the authorized officer will issue and serve a final decision of approval of the sufficient bond coverage to the landowner with a copy going to the lessee/operator. The lessee/operator can then enter onto the surface of the patented land(s) of which are affected by the lease provided all applicable federal and state laws are met.

If the surface owner files a protest (objection) to the bond within the protest period, the authorized officer will review the bond coverage, accompanying papers, and objections to determine whether the bond should be approved or disapproved. If the bond is disapproved, a decision will be served on the lessee/operator with a copy going to the landowner. The lessee/operator will have 30 days to appeal to the Director of the BLM. There have been cases where this appeal has gone to the Interior Board of Land Appeals; however, this is not the process according to the regulations contained in 43 CFR 3814. If the bond is approved, the decision will be served to the surface owner with a copy going to the lessee/operator. The surface owner will be given 30 days to appeal the decision to the Director. If no appeal is filed, the authorized officer will serve a second final decision to the landowner approving the bond with no further right of appeal. The lessee/operator can then enter onto the land as specified above. If an appeal is filed, the action cannot be approved until the matter is settled by a decision from the Director or his delegated authority approving or disapproving the bond.

In no instances will lease action such as an APD be approved in the absence of the surface owner consent without first satisfying the requirements of 43 CFR 3814. The purpose of these requirements is to ensure that the surface owners are treated fairly, and the mineral lessee/operators are allowed to enjoy the full privileges of their lease.

In instances where landowner demands become unreasonable or excessive, the operator is protected by 43 CFR 3814 regulations. Conversely, BLM is assuring the landowners of the opportunity to protect themselves and to assure just compensation via the 43 CFR 3814 regulations.

If the landowner and lessee/operator cannot agree or settle on a payment for damages within the lifespan of the authorization(s), especially if the lease is to be abandon, then the landowner should take her/his action to a court of competent jurisdiction to secure payment of such damages. The lessee/operator has the option also to go to court to settle for payment of damages to the landowner. This may be especially true if a lessee/landowner should want their bond released from any lease obligations including termination. If an agreement cannot be reached for settlement for the payment of damages, either party may go to court at anytime in this above mentioned process to have the court set the amount of damages which are to be paid at that time. Another option that could be pursued by a lessee/operator for access to develop federal minerals is via state condemnation procedures.

It is not BLM's position to encourage the practice of payment of damages in lieu of restoration, nor to question the terms and dollar amounts under which an agreement is made. It is merely a position to assure that an agreement is reached which is acceptable to both parties. The BLM does have the right according to the MLA to require additional surface reclamation measures on all lease actions. However, they must be reasonable, justifiable, and in compliance with all pertinent laws. The goal should be to restore these areas disturbed by lease activities and operations to their original condition or to a reasonable environmentally sound condition. The surface owner should be compensated for all damages created by lease development.

Policy and Guidance for Authorizing Class II Injection Wells for Fluid Disposal located on Split Estate, Private Surface/Federal Minerals.

If an oil and/or gas well located within a federal oil and gas lease on split estate is converted to an injection well for disposing of off-lease, unit-produced fluids by either a third party or the current oil and gas lessee/operator, a right-of-way (ROW) is not the appropriate authorization and will cease being the permitting instrument. This policy resulted from two key IBLA decisions: Mallon Oil Company (104 IBLA 145, September 2, 1988), and Phillips Petroleum Company (105 IBLA 345, November 17, 1988). The outcome from the Mallon Oil Company case was that once the minerals have been removed from the ground, the void formerly occupied by the minerals reverts to the surface owner. In this case both the surface and minerals were owned by the United States, and the court upheld that an ROW issued by BLM was the appropriate authorization. In the Phillips Petroleum Company case which involved split-estate lands, the BLM did not have the authority to issue a permit for the disposal of salt water into a dry well located on private surface and federal minerals. In actuality, BLM used the wrong authorization mechanism—a permit pursuant to section 302(b) of the FLPMA instead of an ROW under section 501 of the FLPMA. However, the BLM was not the owner. According to the Mallon Oil Company case decision, the void space is the property of the surface owner. Henceforth, the federal mineral estate will be protected using the following guidelines and procedures.

Where BLM determines that there are federal minerals within the formation for injection of fluids, the appropriate authorization for fluid disposal on existing federal oil and gas leases on split estate is by an approved Sundry Notice (Form 3160-5). These well activities will be the responsibility of the appropriate lessee/operator and not a third party.

In considering and documenting feasibility for each case, the following factors must be analyzed, where applicable, in the applicant's proposal for subsequent well operation (Sundry Notice): (1) geology, (2) economic factors, (3) volume of produced fluids, (4) hydrology and hydrogeology, (5) land use plans, (6) availability of private, state, and other land disposal sites, (7) state and/or federal agencies' permitting requirements (Onshore Oil and Gas Order #7, 1994), (8) water quality, (9) well bore schematics (present and/or proposed), (10) monitoring requirements of down hole injection/disposal, and, (11) other factors determined by the authorized officer. Not only the applicant, but even more important, the BLM must consider these factors before approving an authorization.

If the proposal is determined to be feasible, and a Sundry Notice is the instrument of authorization, the following conditions and stipulations should be considered and included as part of the authorization:

1) A stipulation stating, "The disposal well authorization may be terminated by the authorized officer of the BLM by a decision notifying the approved lessee/operator thirty days (30) prior to the date of termination. Termination must be for cause which includes, but is not limited to, compliance with both the lease and specific Sundry Notice authorization stipulations and conditions as well as the protection of the federal mineral estate, and the laws and regulations that govern thereof.

2) An approved underground injection control (UIC) permit issued by the State of Wyoming, Oil and Gas Conservation Commission (WOGCC), and written approval from the surface owner.

3) Produced fluid disposed in a well must be traced to the specific oil and gas well(s) from which it came, and these specific well(s) so stated as part of the approved Sundry Notice.

Converting federal oil and gas oil wells within a federal lease on split-estate lands to Class I commercial injection wells (wells used to dispose of hazardous waste; 40 CFR 144.6, 1993) will not be authorized for fluid disposal into a formation containing federal minerals in the Casper District.

If the BLM determines that the produced fluids from off-lease/unit is to be disposed of by injection into a formation found to be totally void of federal minerals, the following conditions must be addressed before a well is approved for disposal purposes:

1) The lessee/operator must comply with all the appropriate regulations within 43 CFR 3160 (1994), and more specifically section 3162.3-4, "Well Abandonment."

2) If used for disposal purposes, the BLM must consider that the well will meet specific criteria

including: (1) that appropriate steps will be taken to avoid intermingling of fluids (oil, gas, and water) between formations or intervals that contain fluids of significant different quality, and (2) protect all federal minerals that may occur in other formations.

3) For an abandoned federal well to be used for subsurface disposal of off-lease unit produced fluids into a formation depleted of federal minerals, the following release form, WY-06-3160-35 (Nov. 1992) must be properly filled out and signed by the private surface owner(s), and accepted by the BLM authorized officer. By signing this release form, the private surface owner acknowledges her/his potential future liability for disposal activities and for assuring the operation of the well to standards as required by appropriate federal and state regulatory agencies. With an approved release, the landowner also could ultimately assume the responsibility for the final plugging and reclamation requirements for the well. When BLM accepts this release, the lessee/operator's oil and gas bond should also be released for this well.

UNITED STATES DEPARTMENT OF THE INTERIOR
Bureau of Land Management
Casper District

DISPOSAL WELL RELEASE

KNOW ALL MEN BY THESE PRESENTS, that I, ________________, of the County of _____________, in the State of ___________, am the surface owner and owner of the void mineral formation of the hereinafter described land upon which a well for oil or gas was drilled and to be converted to a produced water disposal well the source of produced water being from off lease/unit/or third party operators, to wit:

Operator/Lessee: ___________________________

Oil and Gas Lease Number: ________________________

Well No. ___ (lot___; ___¼___¼) Sec.___, Twp.___ N., Rge. ___ W.

The well is located _____ feet from the ____ line and ____ feet from the ____ line of Sec. ____.

I do hereby notify the Bureau of Land Management of my desire to allow __________ to dispose of produced water into the above described well. I do hereby release the Bureau of Land Management from any further liability authorized by this action as well as any further responsibility of plugging and restoration of the well site as related to the action.

WITNESS by hand and seal this ___ day of ________, 19__.

____
Surface Owner

____
____
Address

IN THE PRESENCE OF:

______________________________ Witness	______________________________ Address
______________________________ Witness	______________________________ Address

WY-06-3160-35 (Nov. 1992)

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APPENDIX B

Landownership Adjustment Strategy

of

Casper District

Bureau of Land Management

Proposed By: Land Exchange Team, Casper District 3/13/96

Approved By: /s/ **Donald Hinrichsen** 3/13/96
Don Hinrichsen, Casper District Manager Date

INTRODUCTION

The Casper District Bureau of Land Management (BLM) made up of three resource areas: Buffalo, Newcastle and Platte River has the responsibility for management of some 2.9 million acres of public lands (federal surface and federal minerals), and approximately 8.5 million acres of federal minerals referred to as split-estate (private surface and federal minerals). Focusing primarily on the 2.9 million acres of public lands within this district, many are isolated, unaccessible, and scattered parcels that are intermingled with private, State and other federal lands managed by other agencies.

PURPOSE OF THE LAND ADJUSTMENT STRATEGY

The purpose of this land adjustment strategy is to provide general guidance to the land adjustment program for Casper District in order to accomplish plan objective of the resource areas. The strategy will be useful in guiding land exchange negotiations as well as other land adjustment actions with landowners and discussing the overall program with the public.

The strategy provides general direction for federal land adjustments and may be modified or amended as new information and/or opportunities become evident. The strategy does not make hard and fast decisions on land adjustment; it provides concepts. Specific land adjustment proposals will be analyzed using the NEPA process including public participation. Decisions to implement a specific proposal will be based on the specific NEPA analysis and finding that the proposal is in the public interest and consistent with the BLM plans, and applicable laws and regulations.

Goals

The overall goals of the Casper District BLM are:

1) to develop a landownership pattern that will provide better access, better management and protection to the public lands.

2) to identify and pursue appropriate disposal actions of public land to private individuals and/or for management by other federal or State agencies to help solve problems related to intermixed landownership patterns.

3) to implement and accomplish landownership adjustment in a timely, cost effective manner while continuing to streamline processes.

Objectives

These objectives will tier to resource area management plans (emphasis on land adjustment using exchanges including assembled land exchanges):

1) provide or improve public access and recreation use and opportunities by consolidating landownership pattern and acquiring easement through land adjustment.

2) reduce conflicting land management objectives of private landowners and BLM.

3) improve resource management of BLM public lands and other federal lands to meet planning direction and allow implementation of an ecosystem management approach.

4) acquire lands within critical wildlife and/or Areas of Critical Environmental Concern (ACEC), and riparian areas according to planning direction.

5) Improve cost affective management practices and cost efficiency of management objectives by reducing the administrative costs.

JUSTIFICATION FOR A LAND ADJUSTMENT PROGRAM

The intermingled landownership pattern of this district makes it especially difficult for both the BLM and the private landowners to achieve their often different management objectives. The BLM has multiple objectives endorsed by planning objectives while the private landowners primarily have revenue production objectives. The intermingled ownerships where BLM public lands are scattered, unmanageable and unaccessible leads to conflicts in meeting these different objectives and inhibits management effectiveness and efficiency for both the BLM and the private landowners. In striving to meet its planning objectives, Casper District will plan and use landownership adjustment to consolidated public lands into more manageable and accessible units to further benefit the public and to more affectively initiate and continue sound ecosystem management practices. The intent of landownership adjustment is not to increase the federal land estate, but to consolidate parcels into more efficient and manageable patterns.

The predominant issues and majority of comments from past and current scoping meetings and interviews for resource area planning documents were ones of access to and recreation potential on public lands. Another area of high interest in these meetings and through direct inquiries over the past several years from both adjoining landowners and the general public was the desire to acquire many of these isolated federal (public land) parcels. Also, with the onset of range reform and the uncertainty of grazing lease fees, landowners surrounding isolated, scattered parcels of public lands within their ranch units have voiced their growing sincere interest in purchasing these lands. These scattered, isolated public lands are both expensive and impossible to manage, and more efficiency would be gained while better serving the public by disposing of these parcels. For the Casper District, in order to initiate practices and make sound decisions base on effects to ecosystem units the land pattern must be adjusted. Currently, identified within this district, there are over 300,000 acres of scattered, isolated parcels of land identified within planning documents as available for possible disposal. The majority of the adjoining landowners, the grazing lessees, and the general public have expressed interest in purchasing these parcels. In exchange for many of these disposal parcels, lands or easements could be acquired through avenues such as "assembled land exchanges" defined simply as a type of exchange where several different federal and/or private parcels are combined together and exchanged in one or more transactions over time. The expense of conducting the exchange can be distributed among several different participants and a higher dollar value can be utilized to exchange for lands or public interest therein that BLM has identified for high priority acquisition accordance with land use plans.

LAND ADJUSTMENT PROGRAM

The land adjustment program will make full use of all land adjustment tools as appropriate. These include land for land exchanges, land for other interests such as minerals, land or interest therein for easements (access, conservation), land sales, purchases, transfers and donations. Any of these tools could be used individually or in combinations to meet the land adjustment objectives. It is anticipated and emphasized that land exchanges will provide the greatest opportunity to improve the landownership pattern. No exchange may be completed without a determination that the public interest will be well served according to 43 CFR 2200.06 (b).

SCOPE OF THE PROGRAM

Casper District:	2.9 million acres of public lands and interest therein
	8.5 million acres of federal mineral estate.

For exchanges in order to minimize negative local impacts such as loss of Payment in Lieu of Taxes (PILT), preference should be first given to acquiring lands in counties where these public lands are to be disposed of. If private lands cannot be acquired in the affected counties then preference should be to acquire lands or interests therein for counties within the affected resource area, followed by preference for counties within the Casper District, and finally, preference within the State of Wyoming. The public interest determination and scope of affect as well as the feasibility of the exchange will dictate the applicability of the above preferences, however, they should, at lease, be considered in the process.

LAND ADJUSTMENT EVALUATION CRITERIA

The following acquisition and disposal evaluation and ranking criteria were approved by the Casper District Corporate Board (CB) on October 11, 1995. They were developed by an interdisciplinary team referred to as the Casper District Land Exchange Team (LET) comprised of members from the resource areas and the district. The criteria were derived from laws, regulations, policy, program/resource management experience, planning decisions and presented in draft to all district personnel for review and comment.

These criteria are to be used to evaluate, rank and prioritize land exchange proposals districtwide. This criteria will be used by the LET to evaluate all exchange proposals within the district and present their recommendations to the CB. The CB will make the decision as to whether to proceed with the proposal.

APPENDIX B

Acquisition Criteria for Casper District

Given: Acquisition of land has to have and/or provide public access that can be managed effectively and cost efficiently according to BLM goals and initiatives. Can this given be met? **(Yes or No)**
(If **yes** continue completing ranking criteria)

Explain: (i.e., noncontrolled access, restricted or cooperative)

____

____

____

Ranking Criteria (points awarded) Points

1) Public values.
  a) Recreation
    1) Hunting
      a) Big Game ______
        1) Multiple species (15 points)
        or
        2) Single species (10 points)
      b) Small Game ______
        1) Multiple species (15 points)
        or
        2) Single species (10 points)
    2) Fishing (15 points) ______
    3) ORV Use (If meets planning or public demand objectives)
      a) Present (5 points) ______
      b) Potential (5 points) ______
    4) Scenic (0-15 points in increments of 5 points) ______
      *(Based on visual resource management ratings)
    5) Other Recreation Value(s) (5 points each) ______
      (Specify) ____________________

  b) Resource(s) Management

    * If the resource value is present, would the value(s) acquired or consolidated be/add to the cost efficiency and manageability of them by BLM/federal agency by completing the land adjustment.

APPENDIX B

i) Improves cost and management efficiency in:
- 1) Cultural Resources (5 points) ______
- 2) Forestry Resources (5 points) ______
- 3) Valuable Historic Resources (5 points) ______
- 4) Minerals Resources (5 points) ______

  *Indicate which minerals affected:
  - a) Oil and Gas leases ______
  - b) Coal leases ______
  - c) Locatables ______
  - d) Salables ______
- 5) Paleontological Resources (5 points) ______
- 6) Range Resources (5 points) ______
- 8) Watershed(5 or 10 points) ______

  (wetlands/riparian)
- 7) Wildlife Resources (habitat) (5 points) ______
- 8) T & E species (5 points) ______
- 9) Other(name) (5 points) ______

c) Unique Opportunities (5-50 points in increments of 5) ______

Explanation: ______________________________

____

____

Note: Unique opportunities may also be qualified by factors that aid in the economics of the opportunities; i. e. proponent shares a percentage of the expenses on the evaluation of the public land. Such expenses as the costs of cultural inventory, T&E, appraisal, etc.

2) Provide access to blocks of consolidated federal land or State (?) lands. ______

5 points for 1-640 acres
10 points for 640-2000 acres
15 points for 2,000-5,000 acres
20 points for 5,000-10,000 acres
30 points for 10,000 + acres

Total Points: ______

a) Acres in consolidated blocks that access effects: ______ acres.

Further explanation of topics: ____

____

____

____

____

____

____

____

____

____

____

____

____

Criteria for Disposal of Public Lands
Casper District

Given: Public interest will be well served.

Any one or more of the following criteria may be used to justify the disposal of public land:

*** There will be no acre restriction on disposal.**

____ public land, because of its location and other characteristics, is difficult and uneconomical to manage.

____ public land is not suitable for management by another federal department or agency.

____ public land acquired for a specific purpose is no longer required for that or any other federal purpose.

____ disposal of public land would serve important public purposes

____ public land is more suitable for residential, commercial, agriculture, or industrial development in nonfederal ownership

____ create ownership patterns that allow for local community development that cannot be achieved prudently or feasibly on land other than public land and which outweigh other public objectives and values.

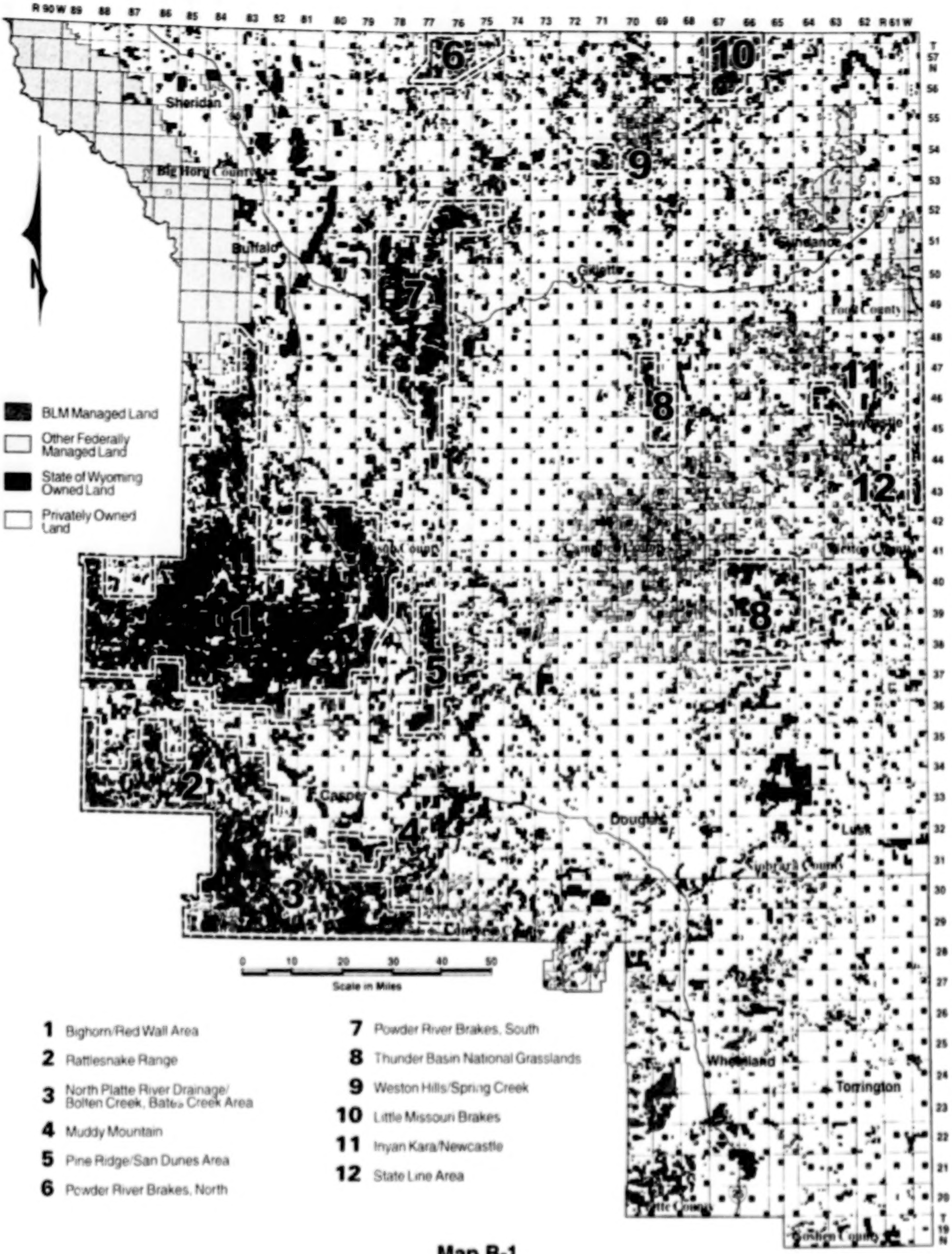
____ consistent with the mission of BLM and land use plans

**** Dispose of entire grazing allotment/lease (yes or no)**

Acres in grazing allotment/lease: ____

CASPER DISTRICT LANDOWNERSHIP MAP NARRATIVE

The following areas identified on the Casper District land status map for building or consolidating within for future landownership patterns were developed by the LET (land exchange team) in conformance with current planning documents and Record of Decisions. They were reviewed, but should continued to be fine tuned as appropriate by districtwide resource specialists using their general and specific knowledge of the district land pattern and uses. These areas mostly are defined by larger blocks of federal ownership with private surface inholdings. Also noted were areas identified by the public as lacking necessary access to these larger blocks of public lands. It should be understood that the intent is to build and consolidate within these areas, however this does not completely negate trading out of these areas depending on the merits of the individual proposal. The remaining parcels not identified within these areas are mostly scattered an/or difficult to manage public land parcels that do not offer much public benefit and may be more beneficial in private ownership or administered by either local, county, State or other federal agencies. However, each exchange no matter where it is located in this Casper District landownership map will be evaluated on its own merit and the public interest determination will be a major determination factor as to whether to pursue it or not.



1 Bighorn/Red Wall Area

2 Rattlesnake Range

3 North Platte River Drainage/ Bolten Creek, Bates Creek Area

4 Muddy Mountain

5 Pine Ridge/San Dunes Area

6 Powder River Brakes, North

7 Powder River Brakes, South

8 Thunder Basin National Grasslands

9 Weston Hills/Spring Creek

10 Little Missouri Brakes

11 Inyan Kara/Newcastle

12 State Line Area

Map B-1

Lands Adjustment Strategy--Potential Acquisition Areas-BLM

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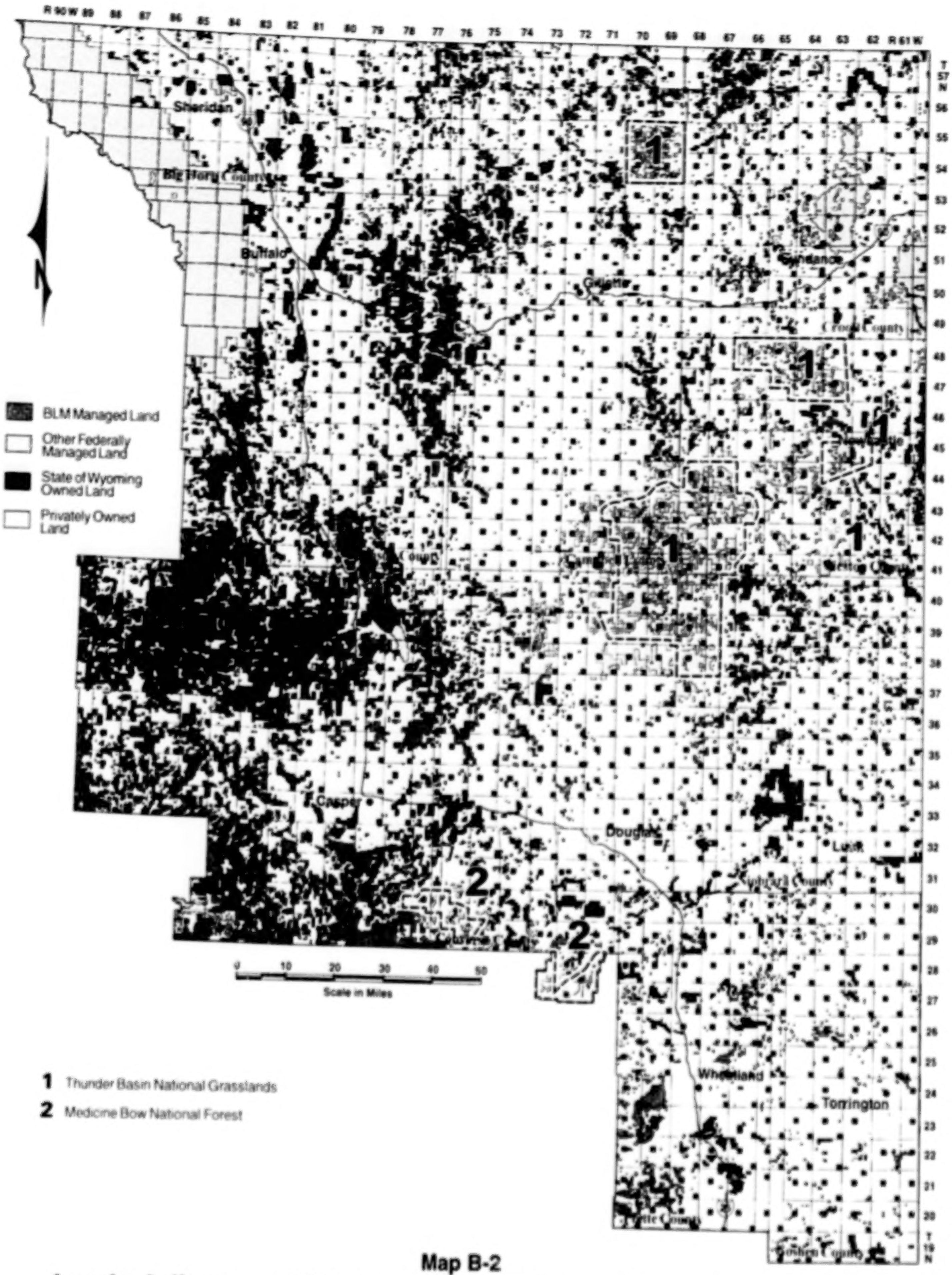

Map B-2

Lands Adjustment Strategy--Potential Acquisition Areas-USFS

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APPENDIX C

WILD AND SCENIC RIVER REVIEW OF WATERWAYS IN THE NEWCASTLE PLANNING AREA

As part of the planning effort for developing the proposed Newcastle RMP for the final EIS, the BLM planning team members reviewed all BLM-administered public land surface along waterways within the Newcastle RMP planning area (Crook, Weston and Niobrara counties). This review was to determine if any of these BLM-administered public lands met the wild and scenic rivers eligibility criteria and suitability factors, as identified in the Wild and Scenic Rivers Act (WSRA).

PUBLIC INVOLVEMENT AND COORDINATION

Wyoming BLM staff met with representatives of various Wyoming state agencies, including the Governor's office, in January 1991. These meetings were specifically for the purpose of reaching a mutual understanding of the wild and scenic rivers review process, and of the wild and scenic rivers eligibility criteria and suitability factors to be used in the process. This included some agreement on any needed refinements of these criteria and factors, specific to Wyoming, and their statewide application on BLM-administered public lands. The eligibility criteria and suitability factors, including minor refinements agreed to at that time, are still consistent with the later-released BLM Wild and Scenic Rivers Manual 8351 (May 19, 1992). At the same time, this included disagreement by state government, with giving any consideration for reviewing waterways that do not contain water year-round (for example, intermittent and ephemeral waterways). The Wyoming BLM recognizes that position but is obligated to follow the BLM manual requirement to include intermittent and ephemeral waterways in the review.

The State Director's policy and guidance statement for conducting the BLM wild and scenic rivers review process in Wyoming was issued December 31, 1992. Minor editorial refinements to this policy and guidance were made on June 29, 1993, to make the wording more consistent with BLM Manual 8351. The policy and guidance statement was again updated to reflect a December 1993 Washington office policy change concerning the inappropriate consideration of jurisdictional concerns as an eligibility criterion instead of a suitability factor.

A September 20, 1989, *Federal Register* notice included the intent to conduct a wild and scenic rivers review in the Newcastle RMP planning area.

On June 20, 1991, an open house was held at the Newcastle Field office (formerly referred to as the Newcastle Resource Area) in Newcastle. Several topics discussed at the open house covered all identified issues and land use and resource management options to be addressed in the Newcastle EIS, including the wild and scenic rivers review. On June 28, 1991, a presentation on the Newcastle wild and scenic rivers review was given to the Casper District Multiple Use Advisory Council.

On February 12, 1992, the Newcastle wild and scenic rivers review was discussed with a representative of the Sierra Club.

In July 1992, BLM personnel briefed Wyoming state agencies on the preliminary eligibility and suitability findings of the wild and scenic rivers review in the Newcastle RMP planning area. No BLM-administered public lands along waterways in the planning area were found to meet either the eligibility criteria or the suitability factors. Due to a BLM policy change, some BLM-administered public land parcels along eight waterways in the review area were found to meet the wild and scenic rivers eligibility criteria. However, these BLM-administered public lands were not found to meet the wild and scenic rivers suitability factors. Thus, the policy change did not result in any net change in the ultimate outcome of the wild and scenic rivers review in the Newcastle RMP planning area. This is explained further below. The RMP update mailed to everyone on the Newcastle mailing list discusses the change (appendix M in the second draft document).

General mailings were sent to the individuals, interest groups, and agencies on the Newcastle Field Office's mailing list, requesting input for the development of the Newcastle RMP, throughout the RMP development process. Individuals and groups that have expressed interest in special designations or special management areas (such as wild and scenic rivers) are included on the list.

Briefings on the eligibility and suitability determinations were also given to the Wyoming Congressional delegation representatives, representatives from local government agencies, and the Crook, Weston and Niobrara County Commissioners.

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PROCESS

The following definitions apply to key terms used in the WSRR process:

Waterway: A flowing body of water or estuary or a section, portion, or tributary thereof, including rivers, streams, creeks, runs, kills, rills, and small lakes. For purposes of this review, a waterway is not required to have water in it year-round and may be ephemeral or intermittent.

Public lands: The BLM-administered public land surface along waterways within an RMP planning area. Those "split estate lands," where the land surface is state or privately owned and the federal mineral estate is administered by the BLM, are not involved with these reviews. Other references to segments, parcels, corridors, and waterways, all represent public lands, which is the basis for our review.

The BLM wild and scenic rivers review in the Newcastle RMP planning area will entail a three-step process of:

1. Determining if BLM-administered public lands along waterways meet the eligibility criteria to be tentatively classified as wild, scenic, or recreational.
2. Determining if any of those public lands that meet the eligibility criteria also meet the wild and scenic rivers suitability factors.
3. Determining how any of those public lands that meet the suitability factors will be managed to protect their outstandingly remarkable values and their tentative wild, scenic, or recreational classification.

These steps are further defined as follows:

Step I: Wild and Scenic Rivers Eligibility Criteria and Tentative Classification

To meet the eligibility criteria, a waterway must be "free-flowing" and, along with its adjacent land area, must possess one or more "outstandingly remarkable" values. As part of the eligibility review, BLM planning team members reviewed all waterways in the Newcastle RMP planning area to see if they contained any BLM-administered public lands that meet the eligibility criteria. Only those portions of waterways flowing through BLM-administered public lands were considered. The following are the guidelines used in applying the eligibility criteria on BLM-administered public land surface in the Newcastle RMP planning area.

Free-flowing. Free-flowing is defined in the WSRA as "existing or flowing in natural condition without impoundment, diversion, straightening, rip-rapping, or other modification of the waterway." The existence of small dams, diversion works, or other minor structures at the time the river segment is being considered shall not automatically disqualify it for possible addition to the WSRS. A river need not be "boatable or floatable" in order to be eligible; there is no "minimum flow" requirement.

Outstandingly Remarkable Values. The BLM-administered public land surface along waterways must also possess one or more outstandingly remarkable values to be eligible for further consideration. Outstandingly remarkable values relate to scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar resource values.

The term "outstandingly remarkable value" is not precisely defined in the WSRA. However, these values must be directly waterway related. The criteria for outstandingly remarkable values, used for the review of BLM-administered public land surface in the Newcastle RMP planning area, are as follows:

> **Scenic**: The landscape elements of landform, vegetation, water, color, and related factors result in notable or exemplary visual features and/or attractions. Additional factors such as seasonal variations in vegetation, scale of cultural modifications, and length of time negative intrusions are viewed can also be considered when analyzing scenic values. Scenery and visual attractions may be highly diverse over the majority of the BLM-administered public land surface involved; are not common to other waterways in the area; and must be of a quality to attract visitors from outside the area.
>
> **Recreational**: Recreational opportunities on the BLM-administered public land surface are unique enough to attract visitors from outside the area. Visitors would be willing to travel long distances to use the waterway resources on the public lands for recreational purposes. Waterway related opportunities could include, but are not limited to, sightseeing, wildlife observation, camping, photography, hiking, fishing, hunting, and boating.
>
> Interpretive opportunities may be exceptional and attract visitors from outside the area. The waterway may provide settings for national or regional commercial usage or competitive events.
>
> **Geologic**: The BLM-administered public land surface provides an example(s) of a geologic feature, process, or phenomenon that is rare, unusual, or unique to the area. The feature(s) may be in an unusually active stage of development, represent a "textbook" example and/or represent a unique or rare combination of geologic features (for example,

erosional, volcanic, glacial, and other geologic structures).

Fisheries: The fishery values on the BLM-administered public land surface may be judged on the relative merits of either fish populations or habitat, or a combination of these conditions. For example:

a. **Populations**. The waterway or waterway segment on BLM-administered public land surface is a contributor to one of the top producers of resident, indigenous fish species, either nationally or regionally. Of particular significance may be the presence of wild or unique stocks, or populations of federally listed or candidate threatened or endangered species. Diversity of species is also important.

b. **Habitat**. The BLM-administered public land surface is contributing to exceptionally high quality habitat for fish species indigenous to the region. Of particular significance may be habitat for federally listed or candidate threatened and endangered species.

Wildlife: Wildlife values on the BLM-administered public land surface may be judged on the relative merits of either wildlife populations or habitat, or a combination of these conditions. For example:

a. **Populations**. The BLM-administered public land surface is contributing to populations of resident or indigenous wildlife species important in the area or nationally. Of particular significance are species considered to be unique or populations of federally listed or candidate threatened or endangered species. Diversity of species is also important.

b. **Habitat**. The BLM-administered public land surface is contributing to exceptionally high quality habitat for wildlife species important in the area or nationally, or may provide unique habitat or a critical link in habitat conditions for federally listed or candidate threatened or endangered species. Adjacent habitat conditions are such that the biological needs of the species are met.

Cultural: The BLM-administered public land surface contains examples of outstanding cultural sites which have unusual characteristics relating to prehistoric or historic use. Sites may be important in the area or nationally for interpreting prehistory or history; may be rare and represent an area where a culture or cultural period was first identified and described; may have been used concurrently by two or more cultural groups; or may have been used by cultural groups for rare or sacred purposes.

Historical: The BLM-administered public land surface contains a site(s) or feature(s) associated with a significant event, an important person, or a cultural activity of the past that was rare, unusual, or unique in the area.

Note: Eligibility for inclusion in the National Register of Historic Places, by itself, is not sufficient justification for being considered outstandingly remarkable.

Similar Values: Other values may include significant hydrologic, paleontologic, botanic, scientific, or ecologic resources as long as they are waterway related.

Tentative Classification. At the same time that eligibility determinations are made, BLM-administered public lands that meet the eligibility criteria are also given a tentative classification (either wild, scenic, or recreational), as required by the Act. Tentative classification is based on the type and degree of human developments associated with the BLM-administered public lands involved and adjacent lands at the time of the review. Actual classification is a congressional legislative determination.

The tentative classifications, as used by BLM in Wyoming, are further defined as follows:

Wild Waterway Areas: Wild areas are those where the waterways or sections of waterways on the BLM-administered public land surface are free of impoundments and generally inaccessible except by trail with watersheds or shorelines essentially primitive and waters unpolluted. These represent vestiges of primitive America. Wild means undeveloped; roads, dams, or diversion works are generally absent from a ¼-mile corridor on both sides of the waterway.

Scenic Waterway Areas: Scenic areas are those where the waterways or sections of waterways on the BLM-administered public land surface are generally free of impoundments, with shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads. Scenic does not necessarily mean the waterway corridor has to have scenery as an outstandingly remarkable value; however, it means the waterway or waterway segment may contain more development (except for major dams or diversion works) than a wild segment and less development than a recreational segment. For example, roads may cross the waterway in places but generally do not run parallel to it. In certain cases, however, if a parallel road is unpaved and well-screened from the waterway by vegetation or a hill for example, it could qualify for scenic classification.

Recreational Waterway Areas: Recreational areas are those where the waterways or sections of waterways on the BLM-administered public land surface are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past. Parallel roads or railroads, or the existence of small dams or diversions, can be allowed in this classification. A recreational area classification does not imply that the waterway or section of waterway on the public land surface will be managed or have priority for recreational use or development.

Results of the Wild and Scenic Rivers Eligibility Review for the Newcastle RMP Planning Area

The Newcastle wild and scenic rivers review team met on October 9, 10, 11, 22, and 23, 1992, to conduct the preliminary eligibility review for the waterways in the Newcastle RMP planning area.

Because of the broad interpretation of the "free flowing" criterion, all waterways reviewed were assumed to be free-flowing. Using an interdisciplinary approach, these waterways were further reviewed to determine whether any BLM-administered public lands along their courses contained any of the outstandingly remarkable values described in the eligibility criteria. Of the 226 waterways reviewed in the RMP planning area, the BLM-administered lands along 218 of the waterways were found to not have outstandingly remarkable values and were dropped from further consideration.

Pursuant to BLM Manual 8351 (May 19, 1992), an additional eligibility criterion, the "Jurisdictional Considerations" criterion, was established. This new criterion provided that, where the BLM-administered public land surface represents less than 40% of the shoreline in a waterway or waterway segment being reviewed, the BLM-administered public land surface involved will be considered to be ineligible for further consideration. In considering this new criterion, 19 BLM-administered public land parcels, scattered along the remaining 8 of the waterways reviewed (Beaver Creek, West Plum Creek, Blacktail Canyon, Belle Fourche River, Inyan Kara Creek, Whoopup Creek, Cave Springs Creek, and Bear Run Creek) were found to not meet the eligibility criteria. Subsequently, this jurisdictional eligibility criterion policy was rescinded (BLM Washington Office Instruction Memorandum No. 94-69, December 3, 1993), because jurisdictional considerations (administrative role or presence) are factors of suitability, rather than eligibility criteria, and are more appropriately addressed in the suitability determination phase of the review process. As a result, the 19 parcels of BLM-administered public lands along the remaining 8 waterways mentioned above were found to meet the wild and scenic rivers eligibility criteria. Attachment A (Wild and Scenic Rivers Eligibility Review) shows the waterways containing BLM-administered public lands that were reviewed and the eligibility determinations made for the public lands involved.

Attachment B and Table B (waterway segment identification and classification) describe the involved public lands in more detail and show the tentative classification (either wild, scenic, or recreational) given to each of the BLM-administered public land parcels that meet the eligibility criteria.

Step II: Wild and Scenic Rivers Suitability Factors

Any BLM-administered public lands that are found to meet the eligibility criteria and that are classified (wild, scenic, or recreational) are further reviewed to determine if they meet the wild and scenic rivers suitability factors. The suitability determinations are made after the general public, local, state and federal governments and agencies, and other interested parties have reviewed the eligibility and classification determinations.

Some factors to be considered in making the suitability determinations include, but are not limited to:

1. Characteristics which do or do not make the BLM-administered public lands a worthy addition to the WSRS.
2. Status of landownership, minerals (surface and subsurface), use in the area, including the amount of private land involved, and associated or incompatible uses. Jurisdictional consideration (administrative role and or presence) must be taken into account, to the extent that management would be affected. Refer to BLM Manual 8351.33A2 (as amended on December 22, 1993) for additional information and details on the consideration of this suitability factor.
3. Reasonably foreseeable potential use of the BLM-administered public lands and related waters which would be enhanced, foreclosed, or curtailed if they were included in the WSRS, and the values which could be foreclosed or diminished if the BLM-administered public lands are not protected as part of the system.

4. Public, state, local, tribal, or federal interest in designation or nondesignation of any part or all of the waterway involved, including the extent to which the administration of any or all of the waterway, including costs thereof, may be shared by state, local, or other agencies and individuals.
5. Estimated cost of acquiring necessary lands and interests in lands and of administering the area if it is added to the WSRS. Section 6 of the WSRA outlines policies and limitations of acquiring lands or interests in land by donation, exchange, consent of owners, easement, transfer, assignment of rights, or condemnation within and outside established river boundaries.
6. Ability of the BLM to manage and/or protect the BLM-administered public lands involved as a WSR or other mechanisms (existing or potential) to protect identified values other than WSR designation.
7. Historical or existing rights which would be adversely affected. In the suitability review, adequate consideration will be given to rights held by other landowners and applicants, lessees, claimants, or authorized users of the BLM-administered public lands involved.
8. Other issues and concerns, if any.

Results of the Wild and Scenic Rivers Suitability Review for the Newcastle RMP Planning Area

Due to the jurisdictional considerations policy change mentioned above, a suitability review was conducted on the BLM-administered public lands determined to meet the eligibility criteria (BLM lands along Beaver Creek, West Plum Creek, Blacktail Canyon, Belle Fourche River, Inyan Kara Creek, Whoopup Creek, Cave Springs Creek, and Bear Run Creek) to determine whether or not they meet the wild and scenic rivers suitability factors. The Newcastle WSR preliminary suitability determinations were made based on an internal BLM screening of the above eight factors. Both in-house knowledge and comments received from the general public were used to make these determinations. Much of the public input received during the eligibility phase involved discussion of suitability factors. This input proved very valuable in helping the BLM to make the preliminary suitability determinations. All parties who participated in the eligibility review process were notified of the preliminary suitability determinations by mail and were afforded the opportunity to comment. Specialists determined that none of the BLM-administered public lands involved met the suitability factors; therefore, they will not be considered for inclusion in the WSRS. Attachment C (Wild and Scenic Rivers Suitability Review) summarizes the waterways, containing BLM-administered public lands, that were reviewed and the suitability determinations made for the public lands involved.

Step III: Management of BLM-administered Public Lands That Meet the Suitability Factors

Because there were no BLM-administered public lands found to meet the suitability factors, step III of the review process (described below) is not applicable to, and was not conducted as part of the wild and scenic rivers review process in the Newcastle RMP planning area. It is described here for informational purposes only. Management of the BLM-administered public lands involved will be included within the provisions of the general planning and management decisions of the Newcastle RMP.

BLM land use planning decisions are developed and implemented for any BLM-administered public lands along waterways that are determined to meet the suitability factors. These planning decisions are made in the RMP and include management objectives, management actions, and appropriate allocations of land and resource uses that would maintain the outstandingly remarkable values and tentative wild and scenic waterway classifications identified on the BLM-administered public lands involved.

BLM-administered public lands that are determined to meet the suitability factors would then be managed under the BLM's land use plan management decisions indefinitely. At some time in the future, it is possible that the Secretary of the Interior may direct the BLM to participate in the development of wild and scenic river study reports. The results and documentation of the BLM wild and scenic river reviews for the RMP planning area would be used in developing any such reports.

Attachment C summarizes the wild and scenic rivers suitability review conducted for the Newcastle RMP planning area.

APPENDIX C

ATTACHMENT A
NEWCASTLE RMP PLANNING AREA
WILD AND SCENIC RIVERS ELIGIBILITY REVIEW

County	Segment Number	Name of Waterway	Township	Range	Section	Quarter-quarter	Quarter	Free Flowing?	Outstandingly Remarkable Values?
Niobrara	S1	Cheyenne River	39 N.	62 W.	01	NW	SE	Yes	No
Niobrara	S2	Cheyenne River	41 N.	67 W.	26	SE	NW	Yes	No
Niobrara	S3	Antelope Creek	38 N.	62 W.	25	SW	SW	Yes	No
Niobrara	S4	Black Tail Creek	37 N.	61 W.	19	SW	SW	Yes	No
Niobrara	S5	Indian Creek	35 N.	60 W.	27	NE	—	Yes	No
Niobrara	S6	Stream	36 N.	65 W.	27	SE	SE	Yes	No
Niobrara	S8	Cow Creek	38 N.	66 W.	07	NE	SE	Yes	No
Niobrara	S9	Cow Creek	38 N.	06 W.	09	SE	NW	Yes	No
Niobrara	S10	Little Cow Creek	38 N.	67 W.	24	SE	—	Yes	No
Niobrara	S11	Spring Creek	39 N.	65 W.	34	—	—	Yes	No
Niobrara	S12	South Greasewood Creek	39 N.	64 W.	34	NW	—	Yes	No
Niobrara	S13	Dixon Draw	40 N.	65 W.	15	NE	—	Yes	No
Niobrara	S14	Snyder Creek	40 N.	65 W.	30	SW	—	Yes	No
Niobrara	S15	Snyder Creek	40 N.	65 W.	30	NE	SE	Yes	No
Niobrara	S16	Snyder Creek	40 N.	65 W.	29	NE	NW	Yes	No
Niobrara	S17	Stream	39 N.	65 W.	12	NE	NE	Yes	No
Niobrara	S18	Snyder Creek	40 N.	65 W.	23	NW	NE	Yes	No
Niobrara	S19	Robbers Roost Creek	40 N.	61 W.	09	NW	NW	Yes	No
Niobrara	S20	Stream	40 N.	60 W.	08	SW	NW	Yes	No
Weston	S21	Stream	45 N.	63 W.	04	SW	—	Yes	No
Weston	S22	Stream	45 N.	63 W.	04	SW	SW	Yes	No
Weston	S23	Stream	45 N.	63 W.	04	SW	SE	Yes	No
Weston	S24	Stream	45 N.	63 W.	08	SE	—	Yes	No
Weston	S25	Poison Creek	46 N.	63 W.	30	NW	—	Yes	No
Weston	S26	Beaver Creek	46 N.	63 W.	30	SW	—	Yes	No
Weston	S27	Beaver Creek	46 N.	63 W.	31	NW	NW	Yes	No
Weston	S28	Beaver Creek	46 N.	64 W.	23	SE	SE	Yes	No
Weston	S29	Beaver Creek	46 N.	64 W.	23	SE	SE	Yes	No
Weston	S30	Beaver Creek	42 N.	61 W.	07	NW	NE	Yes	No
Weston	S31	Beaver Creek	42 N.	61 W.	06	SW	NW	Yes	No
Weston	S32	Beaver Creek	42 N.	61 W.	06	SW	SW	Yes	No
Weston	S33	Stream	46 N.	64 W.	15	NE	—	Yes	No
Weston	S34	Beaver Creek	47 N.	60 W.	03	NW	—	Yes	Yes
Weston	S35	West Plum Creek	46 N.	62 W.	27	SE	SW	Yes	Yes
Weston	S36	West Plum Creek	46 N.	62 W.	27	SE	SW	Yes	Yes
Weston	S37	Blacktail Canyon	46 N.	62 W.	15	SE	NW	Yes	Yes
Weston	S38	Lone Tree Creek	45 N.	67 W.	05	NE	—	Yes	No
Weston	S39	Stream	45 N.	67 W.	04	SE	SE	Yes	No
Weston	S40	South Beaver Creek	43 N.	62 W.	28	SW	NW	Yes	No
Weston	S41	South Beaver Creek	43 N.	62 W.	29	—	—	Yes	No
Weston	S42	Stream	41 N.	61 W.	13	SW	—	Yes	No
Weston	S43	Blacktail Creek	43 N.	61 W.	21	NE	NE	Yes	No
Crook	S44	No. Fork Little Mo. Rv.	57 N.	67 W.	34	NE	SE	Yes	No
Crook	S45	No. Fork Little Mo. Rv.	57 N.	68 W.	35	NW	NE	Yes	No
Crook	S46	No. Fork Little Mo. Rv.	57 N.	66 W.	33	NW	NE	Yes	No
Crook	S47	Belle Fourche River	53 N.	86 W.	25	NW	—	Yes	Yes
Crook	S48	Belle Fourche River	53 N.	66 W.	26	SE	—	Yes	Yes
Crook	S49	Belle Fourche River	55 N.	64 W.	13	SW	NE	Yes	Yes
Crook	S50	Belle Fourche River	57 N.	63 W.	13	SW	NE	Yes	Yes
Crook	S51	Stream	57 N.	61 W.	02	SW	NE	Yes	No
Cook	S52	Gaff Creek	57 N.	64 W.	03	NE	SE	Yes	No
Crook	S53	Holben Creek	58 N.	64 W.	33	NW	SW	Yes	No
Crook	S54	Boggy Creek	57 N.	63 W.	19	SW	NW	Yes	No
Crook	S55	Prickly Pear Creek	57 N.	66 W.	21	SE	SW	Yes	No
Crook	S56	Short Creek	58 N.	66 W.	30	NE	NE	Yes	No
Crook	S57	Thompson Creek	58 N.	65 W.	29	SE	NE	Yes	No
Crook	S58	Stream	53 N.	67 W.	25	NW	NW	Yes	No
Crook	S59	Buffalo Creek	49 N.	67 W.	31	NE	SW	Yes	No

APPENDIX C

ATTACHMENT A (continued)
NEWCASTLE RMP PLANNING AREA
WILD AND SCENIC RIVERS ELIGIBILITY REVIEW

County	Segment Number	Name of Waterway	Township	Range	Section	Quarter-quarter	Quarter	Free Flowing?	Outstandingly Remarkable Values?
Crook	S60	Buffalo Creek	49 N.	67 W.	31	NE	SW	Yes	No
Crook	S61	Cold Springs Creek	50 N.	61 W.	32	NE	NE	Yes	No
Crook	S62	Cold Springs Creek	50 N.	61 W.	32	NE	NE	Yes	No
Crook	S63	Cold Springs Creek	51 N.	61 W.	09	SE	SE	Yes	No
Crook	S64	Inyan Kara Creek	50 N.	64 W.	35	SW	SE	Yes	Yes
Crook	S65	Little Mitchell Creek	52 N.	68 W.	07	NE	SW	Yes	No
Crook	S66	Little Mitchell Creek	52 N.	68 W.	07	NE	SE	Yes	No
Crook	S67	Gammon Prong Creek	57 N.	67 W.	20	SW	SE	Yes	No
Crook	S68	Stream	49 N.	66 W.	33	SW	SE	Yes	No
Crook	S69	West Fork Wind Creek	49 N.	66 W.	33	SE	SW	Yes	No
Crook	S70	West Fork Wind Creek	49 N.	66 W.	33	NW	—	Yes	No
Crook	S71	Stream	49 N.	66 W.	17	SW	SE	Yes	No
Crook	S72	Stream	52 N.	68 W.	04	NW	—	Yes	No
Crook	S73	Stream	52 N.	68 W.	05	SW	SW	Yes	No
Crook	S74	Stream	52 N.	68 W.	07	NE	NW	Yes	No
Crook	S75	Stream	52 N.	68 W.	06	NW	NE	Yes	No
Crook	S76	Stream	51 N.	67 W.	18	NE	SW	Yes	No
Crook	S77	Stream	53 N.	67 W.	03	SW	NE	Yes	No
Crook	S78	Stream	53 N.	66 W.	30	NW	NW	Yes	No
Crook	S79	Stream	53 N.	68 W.	31	NW	—	Yes	No
Crook	S80	Stream	52 N.	66 W.	05	NE	SW	Yes	No
Crook	S81	Stream	52 N.	66 W.	05	NW	—	Yes	No
Crook	S82	Stream	52 N.	66 W.	24	SE	NE	Yes	No
Crook	S83	Stream	51 N.	66 W.	01	SW	—	Yes	No
Crook	S84	Tomcat Creek	50 N.	65 W.	32	NE	—	Yes	No
Crook	S85	Stream	50 N.	65 W.	32	NE	NW	Yes	No
Crook	S86	Stream	50 N.	65 W.	31	SE	—	Yes	No
Crook	S88	Stream	50 N.	64 W.	06	SE	NE	Yes	No
Crook	S89	Stream	50 N.	64 W.	06	SE	—	Yes	No
Crook	S90	Houston Creek	50 N.	64 W.	06	SE	NW	Yes	No
Crook	S91	Stream	50 N.	64 W.	07	NE	—	Yes	No
Crook	S92	Stream	49 N.	64 W.	02	NW	NW	Yes	No
Crook	S93	Stream	52 N.	62 W.	31	SW	NW	Yes	No
Crook	S94	Stream	52 N.	61 W.	13	SW	SW	Yes	No
Crook	S95	Stream	49 N.	65 W.	07	NE	SE	Yes	No
Crook	S96	Stream	49 N.	65 W.	07	NE	SE	Yes	No
Crook	S97	Stream	54 N.	68 W.	25	NW	NW	Yes	No
Crook	S98	Stream	54 N.	68 W.	25	NE	NW	Yes	No
Crook	S99	Stream	49 N.	68 W.	34	NE	SE	Yes	No
Crook	S100	Stream	54 N.	61 W.	06	NE	SW	Yes	No
Crook	S101	Stream	54 N.	61 W.	06	NE	NW	Yes	No
Crook	S102	Stream	54 N.	61 W.	06	—	—	Yes	No
Crook	S103	Stream	54 N.	61 W.	07	NE	SW	Yes	No
Crook	S105	Stream	49 N.	65 W.	21	SW	SW	Yes	No
Crook	S106	Stream	56 N.	68 W.	23	SW	NW	Yes	No
Crook	S107	Stream	56 N.	68 W.	21	NE	SE	Yes	No
Crook	S108	Stream	56 N.	68 W.	03	SW	NW	Yes	No
Crook	S109	No. Fork Little Mo. Rv.	57 N.	67 W.	31	SE	NW	Yes	No
Crook	S110	Stream	57 N.	67 W.	05	SE	—	Yes	No
Crook	S111	Moulton Creek	58 N.	67 W.	28	NE	NE	Yes	No
Crook	S112	Stream	58 N.	67 W.	27	SW	—	Yes	No
Crook	S113	Stream	58 N.	67 W.	34	SW	—	Yes	No
Crook	S114	Stream	57 N.	67 W.	23	—	—	Yes	No
Crook	S115	Battle Creek	57 N.	67 W.	15	SW	SW	Yes	No
Crook	S116	Battle Creek	57 N.	67 W.	15	SW	SW	Yes	No
Crook	S117	Stream	57 N.	67 W.	27	SW	NW	Yes	No
Crook	S118	Gammon Prong Creek	57 N.	67 W.	28	SE	SE	Yes	No
Crook	S119	Little Missouri River	56 N.	66 W.	20	NW	NW	Yes	No
Crook	S120	T L Creek	56 N.	66 W.	20	NW	NW	Yes	No

ATTACHMENT A (continued)
NEWCASTLE RMP PLANNING AREA
WILD AND SCENIC RIVERS ELIGIBILITY REVIEW

County	Segment Number	Name of Waterway	Township	Range	Section	Quarter-quarter	Quarter	Free Flowing?	Outstandingly Remarkable Values?
Crook	S121	Mule Creek	56 N.	67 W.	25	SW	NE	Yes	No
Crook	S122	Mule Creek	56 N.	67 W.	25	SW	SE	Yes	No
Crook	S123	Carrie Nation Creek	55 N.	67 W.	06	SE	SW	Yes	No
Crook	S124	Stream	56 N.	67 W.	19	NW	—	Yes	No
Crook	S125	Stream	56 N.	67 W.	30	NE	NE	Yes	No
Crook	S126	Stream	56 N.	67 W.	15	NW	—	Yes	No
Crook	S127	Stream	56 N.	67 W.	15	SW	—	Yes	No
Crook	S128	Stream	56 N.	67 W.	15	SE	NE	Yes	No
Crook	S129	Little Missouri River	56 N.	66 W.	18	SE	SE	Yes	No
Crook	S130	Little Piney Creek	49 N.	65 W.	14	SE	SE	Yes	No
Crook	S131	Willow Creek	49 N.	65 W.	14	SE	SE	Yes	No
Crook	S132	Deep Draw	49 N.	65 W.	23	SW	—	Yes	No
Crook	S133	Willow Creek	49 N.	65 W.	23	NE	—	Yes	No
Crook	S134	Deep Draw	49 N.	65 W.	25	NW	—	Yes	No
Crook	S135	Willow Creek	49 N.	65 W.	23	SE	—	Yes	No
Crook	S136	Green River	49 N.	65 W.	26	SE	SE	Yes	No
Crook	S137	Willow Creek	49 N.	65 W.	25	SW	SW	Yes	No
Crook	S138	Stream	56 N.	67 W.	11	SE	SW	Yes	No
Crook	S139	Stream	56 N.	67 W.	02	SE	SE	Yes	No
Crook	S140	Stream	56 N.	67 W.	01	SW	—	Yes	No
Crook	S141	Stream	56 N.	67 W.	01	SW	—	Yes	No
Crook	S142	Cedar Creek	56 N.	67 W.	01	NW	SW	Yes	No
Crook	S143	Cedar Creek	56 N.	67 W.	01	NW	NW	Yes	No
Crook	S144	Bush Creek	56 N.	66 W.	05	NE	—	Yes	No
Crook	S145	Cedar Creek	56 N.	67 W.	02	SE	—	Yes	No
Crook	S146	No. Fork Little Mo. Rv.	56 N	67 W.	02	NE	NW	Yes	No
Crook	S147	Stream	56 N.	67 W.	10	NE	NE	Yes	No
Crook	S148	Cedar Creek	56 N.	67 W.	10	SE	—	Yes	No
Crook	S149	Stream	56 N.	67 W.	10	SE	—	Yes	No
Crook	S150	Stream	56 N.	67 W.	10	SW	—	Yes	No
Crook	S151	Cedar Creek	56 N.	67 W.	10	SW	—	Yes	No
Crook	S152	Stream	56 N.	67 W.	05	NE	SE	Yes	No
Crook	S153	Stream	56 N.	67 W.	05	NW	—	Yes	No
Crook	S154	Stream	56 N.	67 W.	08	NW	—	Yes	No
Crook	S155	Driscoll Creek	56 N.	67 W.	08	NW	—	Yes	No
Crook	S156	Stream	56 N.	67 W.	07	NE	—	Yes	No
Crook	S157	Storm Draw	57 N.	66 W.	29	SE	—	Yes	No
Crook	S158	Stream	57 N.	67 W.	25	NW	NE	Yes	No
Crook	S161	North Draw	57 N.	66 W.	18	NE	—	Yes	No
Crook	S162	Stream	57 N.	66 W.	05	SW	SE	Yes	No
Crook	S163	Stream	57 N.	66 W.	05	SE	SW	Yes	No
Crook	S164	Craft Draw	57 N.	66 W.	05	SW	—	Yes	No
Crook	S165	Craft Draw	57 N.	66 W.	05	SW	—	Yes	No
Crook	S166	Strand Draw	57 N.	66 W.	21	NE	—	Yes	No
Crook	S167	No. Fork Little Mo. Rv.	57 N.	66 W.	27	SW	NW	Yes	No
Crook	S168	Prickly Pear Creek	57 N.	66 W.	27	NW	SW	Yes	No
Crook	S169	Stream	56 N.	66 W.	23	NE	—	Yes	No
Crook	S170	Stream	56 N.	66 W.	23	NE	—	Yes	No
Crook	S171	Stream	57 N.	65 W.	15	SE	NE	Yes	No
Crook	S172	Stream	57 N.	65 W.	15	SE	—	Yes	No
Crook	S173	Stream	57 N.	65 W.	11	SE	SE	Yes	No
Crook	S174	Stream	57 N.	65 W.	08	NW	NE	Yes	No
Crook	S175	Bronco John Creek	57 N.	65 W.	35	NW	SW	Yes	No
Crook	S176	Stream	56 N.	65 W.	02	SW	SE	Yes	No
Crook	S177	Lindsey Creek	56 N.	65 W.	11	SW	NE	Yes	No
Crook	S178	Lindsey Creek	56 N.	65 W.	11	NW	—	Yes	No
Crook	S179	Stream	57 N.	65 W.	35	SE	NW	Yes	No
Crook	S180	Stream	57 N.	65 W.	02	NW	—	Yes	No
Crook	S181	Stream	57 N.	65 W.	02	NE	SW	Yes	No

APPENDIX C

ATTACHMENT A (continued)
NEWCASTLE RMP PLANNING AREA
WILD AND SCENIC RIVERS ELIGIBILITY REVIEW

County	Segment Number	Name of Waterway	Township	Range	Section	Quarter-quarter	Quarter	Free Flowing?	Outstandingly Remarkable Values?
Crook	S182	Sage Creek	57 N.	65 W.	02	NE	SE	Yes	No
Crook	S183	Sage Creek	57 N	65 W.	01	SW	—	Yes	No
Crook	S184	Stream	57 N.	65 W.	01	SW	SE	Yes	No
Crook	S185	Little Missouri River	57 N.	65 W.	29	NW	NE	Yes	No
Crook	S186	Little Missouri River	56 N.	66 W.	17	NW	NW	Yes	No
Crook	S187	Little Missouri River	56 N.	66 W.	17	NW	NW	Yes	No
Crook	S188	Little Missouri River	56 N.	66 W.	17	NW	NW	Yes	No
Crook	S189	Little Missouri River	56 N.	66 W.	17	NW	SW	Yes	No
Crook	S190	Stream	58 N.	66 W.	29	SW	NW	Yes	No
Crook	S191	Stream	58 N.	65 W.	30	NW	—	Yes	No
Crook	S192	Stream	58 N.	65 W.	30	NE	NE	Yes	No
Crook	S193	Stream	58 N.	65 W.	19	SE	SE	Yes	No
Crook	S194	Stream	58 N.	65 W.	30	SW	—	Yes	No
Crook	S195	Stream	58 N.	65 W.	30	SW	—	Yes	No
Crook	S196	Stream	58 N.	65 W.	32	SW	NW	Yes	No
Crook	S197	Stream	58 N.	65 W.	32	NE	NE	Yes	No
Crook	S198	Stream	58 N.	65 W.	28	SW	—	Yes	No
Crook	S199	Stream	56 N.	66 W.	29	NE	SE	Yes	No
Crook	S200	Stream	56 N.	66 W.	28	SW	—	Yes	No
Crook	S201	Dinky Creek	56 N.	66 W.	28	NE	NE	Yes	No
Crook	S202	Stream	56 N.	66 W.	27	NW	—	Yes	No
Crook	S203	Stream	55 N.	66 W.	15	SE	NE	Yes	No
Niobrara	S204	Twentyone Draw	40 N.	60 W.	06	SE	—	Yes	No
Niobrara	S205	Twentyone Draw	40 N.	60 W.	08	NW	—	Yes	No
Crook	S206	Stream	56 N.	65 W.	18	SE	NE	Yes	No
Crook	S207	Stream	56 N.	65 W.	18	NE	—	Yes	No
Crook	S208	Stream	56 N.	65 W.	07	SE	NE	Yes	No
Crook	S209	Big Draw	56 N.	65 W.	05	NE	—	Yes	No
Crook	S210	Stream	57 N.	65 W.	33	NE	NW	Yes	No
Crook	S211	Stream	57 N.	65 W.	33	NW	NW	Yes	No
Crook	S212	Stream	57 N.	65 W.	32	NE	—	Yes	No
Crook	S213	Gaff Creek	57 N.	64 W.	02	SW	SW	Yes	No
Crook	S214	Stream	57 N.	64 W.	14	NW	NW	Yes	No
Crook	S215	Gaff Creek	57 N.	64 W.	14	NW	—	Yes	No
Crook	S216	Stream	57 N.	64 W.	22	NE	NW	Yes	No
Crook	S217	Stream	57 N.	64 W.	15	SE	SW	Yes	No
Crook	S218	Stream	58 N.	61 W.	30	NW	—	Yes	No
Crook	S219	Stream	58 N.	61 W.	25	SE	NE	Yes	No
Niobrara	S220	Owl Creek	40 N.	66 W.	08	SE	SE	Yes	No
Niobrara	S221	Owl Creek	41 N.	66 W.	31	SE	—	Yes	No
Niobrara	S222	Stream	40 N.	66 W.	04	NE	NE	Yes	No
Niobrara	S223	Fred Draw	41 N.	66 W.	27	NW	SE	Yes	No
Niobrara	S224	Stream	40 N.	67 W.	24	NE	SE	Yes	No
Niobrara	S225	West Bull Creek	39 N.	67 W.	26	NE	NE	Yes	No
Niobrara	S226	Little Cow Creek	38 N.	66 W.	20	SW	NE	Yes	No
Niobrara	S227	Stream	39 N.	65 W.	35	SW	NW	Yes	No
Niobrara	S228	Dogie Creek	39 N.	66 W.	08	SE	—	Yes	No
Niobrara	S229	Stream	39 N.	66 W.	08	SE	NE	Yes	No
Niobrara	S230	Stream	39 N.	66 W.	17	SE	NE	Yes	No
Niobrara	S231	Snyder Creek	39 N.	66 W.	06	SE	—	Yes	No
Niobrara	S232	Snyder Creek	40 N.	66 W.	33	SW	—	Yes	No
Niobrara	S233	Stream	40 N.	66 W.	33	SW	NW	Yes	No
Niobrara	S234	Stream	38 N.	64 W.	05	SE	—	Yes	No
Niobrara	S235	Stream	38 N.	64 W.	05	SE	—	Yes	No
Niobrara	S236	Stream	39 N.	64 W.	27	SW	NE	Yes	No
Niobrara	S237	Stream	39 N.	64 W.	27	SW	NW	Yes	No
Niobrara	S238	Stream	39 N.	65 W.	13	SW	SW	Yes	No
Niobrara	S239	Stream	39 N.	65 W.	25	SE	—	Yes	No
Niobrara	S240	Boggy Creek	39 N.	64 W.	17	NW	—	Yes	No

APPENDIX C

ATTACHMENT A (continued)
NEWCASTLE RMP PLANNING AREA
WILD AND SCENIC RIVERS ELIGIBILITY REVIEW

County	Segment Number	Name of Waterway	Township	Range	Section	Quarter-quarter	Quarter	Free Flowing?	Outstandingly Remarkable Values?
Niobrara	S241	Stream	39 N.	64 W.	05	SW	SE	Yes	No
Niobrara	S242	Stream	39 N.	64 W.	08	SE	SW	Yes	No
Niobrara	S243	Stream	40 N.	65 W.	25	SW	—	Yes	No
Niobrara	S244	Stream	40 N.	64 W.	32	SW	SE	Yes	No
Niobrara	S245	Stream	40 N.	65 W.	13	NW	NW	Yes	No
Niobrara	S246	Stream	40 N.	65 W.	13	SE	—	Yes	No
Niobrara	S247	Stream	40 N.	64 W.	17	SW	NE	Yes	No
Niobrara	S248	Snyder Creek	40 N.	64 W.	21	NW	NE	Yes	No
Niobrara	S249	Stream	39 N.	63 W.	28	SW	—	Yes	No
Niobrara	S250	Stream	39 N.	63 W.	27	NE	NW	Yes	No
Niobrara	S251	Stream	39 N.	63 W.	27	NE	NE	Yes	No
Niobrara	S252	N. Greasewood Creek	39 N.	64 W.	25	NW	—	Yes	No
Niobrara	S253	Stream	38 N.	63 W.	06	SW	—	Yes	No
Niobrara	S254	N. Greasewood Creek	39 N.	63 W.	32	SE	NE	Yes	No
Niobrara	S255	Stream	38 N.	63 W.	05	NW	—	Yes	No
Niobrara	S256	Seven Mile Creek	40 N.	63 W.	22	NE	NW	Yes	No
Niobrara	S257	Rock Corral Draw	40 N.	63 W.	01	SE	—	Yes	No
Niobrara	S258	Rock Corral Draw	40 N.	62 W.	05	NE	SW	Yes	No
Niobrara	S259	Trout Draw	40 N.	62 W.	05	NW	NW	Yes	No
Niobrara	S260	Mercer Draw	37 N.	66 W.	07	NE	—	Yes	No
Niobrara	S261	Stream	37 N.	66 W.	05	SE	SE	Yes	No
Niobrara	S262	Stream	38 N.	66 W.	33	NW	—	Yes	No
Niobrara	S263	Stream	38 N.	65 W.	31	SE	—	Yes	No
Niobrara	S264	Stream	37 N.	66 W.	12	SE	NE	Yes	No
Niobrara	S265	Cow Creek	38 N.	65 W.	28	NE	NE	Yes	No
Niobrara	S266	Twenty Mile Gulch	36 N.	66 W.	02	SW	SE	Yes	No
Niobrara	S267	Twenty Mile Gulch	36 N.	66 W.	14	NE	—	Yes	No
Niobrara	S268	Stream	36 N.	66 W.	09	NE	NW	Yes	No
Niobrara	S269	Mikes Draw	36 N.	66 W.	17	SW	—	Yes	No
Niobrara	S270	Stream	36 N.	67 W.	11	SE	NW	Yes	No
Niobrara	S271	Stream	35 N.	65 W.	04	SE	SE	Yes	No
Weston	S272	Oil Creek	43 N.	62 W.	23	—	—	Yes	No
Weston	S273	Oil Creek	44 N.	62 W.	35	—	—	Yes	No
Weston	S274	Oil Creek	46 N.	62 W.	15	NW	SW	Yes	No
Weston	S275	Four Mile Draw	46 N.	62 W.	14	—	—	Yes	No
Weston	S276	Whoopup Creek	43 N.	60 W.	06	SE	NW	Yes	Yes
Weston	S277	Whoopup Creek	43 N.	60 W.	20	—	—	Yes	Yes
Weston	S278	Whoopup Creek	43 N.	60 W.	21	—	—	Yes	Yes
Weston	S279	Whoopup Creek	43 N.	60 W.	28	—	—	Yes	Yes
Weston	S280	Whoopup Creek	43 N.	60 W.	29	—	—	Yes	Yes
Weston	S281	Whoopup Creek	43 N.	60 W.	33	—	—	Yes	Yes
Weston	S282	Whoopup Creek	44 N.	60 W.	31	SE	NE	Yes	Yes
Weston	S283	Cave Springs Creek	45 N.	61 W.	18	—	—	Yes	Yes
Weston	S284	Cave Springs Creek	45 N.	61 W.	19	—	—	Yes	Yes
Weston	S285	Beaver Creek Tributary	42 N.	61 W.	32	N1/2	—	Yes	No
Weston	S286	Bear Run Creek	46 N.	60 W.	09	—	—	Yes	Yes
Weston	S287	Thompson Canyon Creek	46 N.	60 W.	34	—	—	Yes	No
Weston	S288	N. Thompson Canyon Ck.	46 N.	60 W.	27	—	—	Yes	No
Weston	S289	N. Thompson Canyon Ck.	46 N.	60 W.	28	—	—	Yes	No
Weston	S290	Sherwood Canyon Creek	45 N.	60 W.	09	—	—	Yes	No
Weston	S291	Sherwood Canyon Ck. Trb.	45 N.	60 W.	08	—	—	Yes	No
Weston	S292	Sheldon Canyon Ck. Trb.	45 N.	60 W.	20	—	—	Yes	No
Weston	S293	Sheldon Canyon Ck. Trb.	45 N.	60 W.	21	—	—	Yes	No
Weston	S294	Stotts Canyon Creek	46 N.	60 W.	15	—	—	Yes	No
Weston	S295	Hay Creek	46 N.	67 W.	34	—	—	Yes	No
Weston	S296	Kinney Canyon Creek	45 N.	60 W.	05	—	—	Yes	No
Weston	S297	Kinney Canyon Creek	45 N.	60 W.	06	—	—	Yes	No
Weston	S298	Cedar Draw Creek	44 N.	60 W.	09	—	—	Yes	No
Weston	S299	Cedar Draw Creek Tribs.	44 N.	60 W.	04	—	—	Yes	No

ATTACHMENT A (continued)
NEWCASTLE RMP PLANNING AREA
WILD AND SCENIC RIVERS ELIGIBILITY REVIEW

County	Segment Number	Name of Waterway	Township	Range	Section	Quarter-quarter	Quarter	Free Flowing?	Outstandingly Remarkable Values?
Weston	S300	Cedar Draw Creek Tribs.	44 N.	60 W.	08	—	—	Yes	No
Weston	S301	Hay Creek	41 N.	60 W.	05	E1/2	—	Yes	No
Weston	S302	Line Creek	43 N.	60 W.	33	—	—	Yes	No
Weston	S303	Rats Valley Creek	45 N.	60 W.	18	—	—	Yes	No
Weston	S304	Rats Valley Creek	45 N.	61 W.	13	—	—	Yes	No
Weston	S305	Rats Valley Creek	45 N.	61 W.	24	—	—	Yes	No
Weston	S306	Sheep Creek & Tribs.	41 N.	61 W.	05	—	—	Yes	No
Weston	S307	Stream	48 N.	68 W.	25	—	—	Yes	No
Weston	S308	Stream	48 N.	68 W.	26	—	—	Yes	No
Weston	S309	Stream	47 N.	68 W.	01	—	—	Yes	No
Weston	S310	Stream	47 N.	68 W.	02	—	—	Yes	No
Weston	S311	Stream	47 N.	68 W.	04	—	—	Yes	No
Weston	S312	Stream	47 N.	68 W.	09	—	—	Yes	No
Weston	S313	Stream	47 N.	68 W.	14	—	—	Yes	No
Weston	S314	Stream	47 N.	68 W.	16	—	—	Yes	No
Weston	S315	Stream	47 N.	67 W.	17	—	—	Yes	No
Weston	S316	Stream	47 N.	67 W.	18	—	—	Yes	No
Weston	S317	Stream	47 N.	60 W.	09	—	—	Yes	No
Weston	S318	Stream	47 N.	60 W.	34	—	—	Yes	No
Weston	S319	Stream	46 N.	[illegible] W.	multiple			Yes	No
Weston	S320	Stream	41 N.	61 W.	17	—	—	Yes	No
Niobrara	S321	21 Draw Creek & Tribs.	40 N.	60 W.	06	—	—	Yes	No
Niobrara	S322	21 Draw Creek & Tribs.	40 N.	60 W.	07	—	—	Yes	No
Niobrara	S323	21 Draw Creek & Tribs.	40 N.	60 W.	08	—	—	Yes	No

APPENDIX C

ATTACHMENT B
IDENTIFICATION AND CLASSIFICATION OF BLM-ADMINISTERED PUBLIC LANDS ALONG THE WATERWAYS DETERMINED TO MEET THE WILD AND SCENIC RIVERS ELIGIBILITY CRITERIA

SEGMENT OF WATERWAY REVIEWED

INYAN KARA CREEK

Inyan Kara Creek flows for approximately 21½ linear miles. Less than ⅛ mile of the creek flows across public land administered by the BLM from its origin to its confluence with the Belle Fourche River. The public land portion lies in a scenic creek bottom in rolling terrain. The riparian zone includes deciduous trees and shrubs. The BLM-administered portion of the stream is not large enough to preserve the outstanding values of the area.

WHOOPUP CREEK AND TRIBUTARIES

The Whoopup Creek drainage and its tributaries on public land pass through varied terrain along the foothills of Elk Mountain, a part of the Black Hills of South Dakota and Wyoming. The creek itself has been dry for several years; the tributaries are intermittent, flowing only when snowmelt and heavy rains are occur. The main drainage of Whoopup Creek passes through Whoopup Canyon, a steep-walled scenic canyon. There is no public access to any segments of Whoopup Creek and only limited foot access to the public land along its tributaries. A portion of the public land along Whoopup Creek is managed as part of an ACEC for other values, and to protect the character of the drainage. The scattered parcels and intermittent landownership do not lend themselves to management as a component of the WSR system.

CAVE SPRINGS CREEK

Cave Springs Creek drainage is approximately 3 miles long of which approximately 1 mile crosses BLM-administered public land. The drainage passes through broken terrain with deciduous trees and shrubs in a portion of the riparian zone and grassland in the remainder of the area. There is no public access. Scenic and historic values are not threatened. Public land management has only a minor influence on the character of the area. The public land segments alone do not contain the most significant historic or scenic values on the stream. Due to the small amount of public land and the lack of threats to values, the area is not recommended as suitable for inclusion in the WSR system.

BEAR RUN CREEK

Bear Run Creek traverses approximately 5 miles of which approximately ⅜ mile is on BLM-administered public land. This is an extremely rough and steep area in the foothills of the Black Hills of South Dakota and Wyoming. The BLM segment in itself is not manageable for any purposes other than its current uses which are recreation, potential timber management, and limited livestock grazing. Adjacent private lands have been subdivided and developed as seasonal home sites. Public access is by foot only.

WEST PLUM CREEK

West Plum Creek flows for approximately 10½ linear miles. BLM-administered public land occurs in two parcels totalling ⅜ mile in length. The area is in scenic pine-covered, steep terrain. The creek bottom meanders and has shrubs and deciduous trees along a portion of its length. Due to the small amount of public land and the scattered ownership pattern the public land segments are not recommended for inclusion as part of the WSR system.

BLACKTAIL CANYON CREEK

Blacktail Canyon Creek flows for approximately 4 linear miles with approximately ¼ mile crossing BLM-administered public land. The area is in the foothills of the Black Hills of South Dakota and Wyoming and crosses rugged steep terrain with pine-covered slopes and shrubs and deciduous trees in the riparian zone. Due to the small amount of public land this segment is not recommended for inclusion in the WSR system.

BELLE FOURCHE RIVER

The Belle Fourche River flows for approximately 75 linear miles in the planning area with less than 2⅛ miles in four segments crossing BLM-administered public land. Only one parcel has public access. The Belle Fourche River flows through varied terrain changing from grass-shrub rangeland to steep pine-covered terrain with cottonwoods and willows in the riparian zone and grading back to grassland. Leafy spurge, a noxious weed, has become established and is at infestation levels along several segments both on public and private land. While the length of the river can be considered highly scenic and passes through Devils Tower National Monument, the public land segments are separated and do not contribute enough river distance to justify inclusion in the WSR system.

STOCKADE BEAVER CREEK

The public land segment (approximately ¼ mile) on Stockade Beaver Creek has been transferred to Weston County under the provisions of the Recreation and Public Purposes Act and is no longer in federal ownership. The area is currently being managed by Weston County as part of a county recreation site.

TABLE B
IDENTIFICATION AND TENTATIVE CLASSIFICATION OF BLM-ADMINISTERED PUBLIC LAND PARCELS THAT MEET THE WILD AND SCENIC RIVERS ELIGIBILITY CRITERIA

PARCEL NUMBER	MILEAGE ACROSS PUBLIC LAND	NAME AND LOCATION OF WATERWAY	DISTANCE TO NEXT PUBLIC LAND PARCEL	DESCRIPTION AND VALUES OF PUBLIC LAND PARCEL	PRELIMINARY CLASSIFICATION OF PUBLIC LAND PARCEL
INYAN KARA CREEK					
1(S64)	<⅛	T. 50 N., R. 64 W., section 35, SWSE	single parcel	Wide creek bottom; riparian zone includes deciduous trees and shrubs; scenic setting.	scenic
WHOOPUP CREEK					
S1(S276)	¾	T. 43 N., R. 60 W., section 6, SENW	¼ mile to S7	Dry creek bed in canyon; steep walls, few cottonwood trees; scattered shrubs.	recreation scenic
S2(S277)	⅜	T. 43 N., R. 60 W., section 20	½ mile to S2	Intermittant stream; tributary to Whoopup Creek; broken terrain with scattered pine and juniper; no public access.	recreation scenic
S3(S278)	⅛	T. 43 N., R. 60 W., section 21	½ mile to S2 and S4	Intermittant stream; tributary to Whoopup Creek; broken terrain with scattered pine and juniper; foot access only.	recreation scenic
S4(S279)	½	T. 43 N., R. 60 W., section 28	1 mile from S2	Tributary to Whoopup Creek; broken terrain through moderate to steep hills; foot access only.	recreation scenic

TABLE B
(continued)

PARCEL NUMBER	MILEAGE ACROSS PUBLIC LAND	NAME AND LOCATION OF WATERWAY	DISTANCE TO NEXT PUBLIC LAND PARCEL	DESCRIPTION AND VALUES OF PUBLIC LAND PARCEL	PRELIMINARY CLASSIFICATION OF PUBLIC LAND PARCEL
WHOOPUP CREEK (continued)					
S5 (S280)	½	T. 43 N., R. 60 W., section 29	1 mile from S2	Tributary to Whoopup Creek; broken terrain through moderate to steep hills; foot access only.	recreation scenic
S6(S281)	1	T. 43 N., R. 60 W., section 33	1 air mile from S5	Deep canyon with shrubs and scattered pine and juniper, chokecherry, and few deciduous trees in bottom. Intermittant stream. Foot access only.	recreation scenic
S7	¾	T. 44 N., R. 60 W., section 31, SENE	¼ mile to S1	Steep walled narrow canyon with shrubs, cottonwood and juniper in bottom; no water in channel for several years; no public access.	recreation scenic
CAVE SPRINGS CREEK					
S1(S283)	¾	T. 45 N., R. 61 W., section 18	adjacent to S2	Small canyon; intermittant stream, deciduous trees and shrubs in bottom; surrounded by shrub grassland; no access.	recreation scenic
S2(S284)	¼	T. 45 N., R. 61 W., section 19	adjacent to S1	Small canyon; intermittant stream, deciduous trees and shrubs in bottom; surrounded by shrub grassland; no access.	recreation scenic

TABLE B
(continued)

PARCEL NUMBER	MILEAGE ACROSS PUBLIC LAND	NAME AND LOCATION OF WATERWAY	DISTANCE TO NEXT PUBLIC LAND PARCEL	DESCRIPTION AND VALUES OF PUBLIC LAND PARCEL	PRELIMINARY CLASSIFICATION OF PUBLIC LAND PARCEL
BEAR RUN CREEK					
S1(S286)	⅜	T. 46 N., R. 60 W., section 9	single parcel	Rugged, steep terrain; pine-covered hills; narrow riparian zone; difficult foot access only.	recreation scenic
STOCKADE BEAVER CREEK					
This parcel is no longer in federal ownership; transferred to Weston County under provisions of the Recreation and Public Purposes Act. Currently managed as part of county recreation site.					
WEST PLUM CREEK					
S1(S35)	⅛	T. 46 N., R. 62 W., section 27, SWSE	½ mile	Scenic pine-covered steep terrain; meandering creek bottom with shrubs and deciduous trees.	scenic
S2(S36)	⅛	T. 46 N., R. 62 W., section 27, NWNE	½ mile	Scenic pine-covered steep terrain; meandering creek bottom with shrubs and deciduous trees.	scenic
BLACKTAIL CANYON CREEK					
S1(S37)	¼	T. 46 N., R. 62 W., section 15, SENW	single parcel	Rugged steep pine-covered slopes; creek bottom with shrubs and deciduous trees.	scenic recreation

TABLE B
(continued)

PARCEL NUMBER	MILEAGE ACROSS PUBLIC LAND	NAME AND LOCATION OF WATERWAY	DISTANCE TO NEXT PUBLIC LAND PARCEL	DESCRIPTION AND VALUES OF PUBLIC LAND PARCEL	PRELIMINARY CLASSIFICATION OF PUBLIC LAND PARCEL
BELLE FOURCHE RIVER					
S1(S47)	¾	T. 53 N., R. 66 W., section 25, NW	½ mile to S2	Timbered slopes, wide flood plain, cottonwood riparian zone, leafy spurge infestation; no access.	recreation scenic
S2(S48)	<¼	T. 53 N., R. 66 W., section 26, SE	½ mile to S1, approximately 15 air miles to S3	Timbered slopes, wide flood plain, cottonwood riparian zone, leafy spurge infestation; no access.	recreation scenic
S3(S49)	½ to ¾	T. 55 N., R. 64 W., section 13, SWNE	approximately 13 air miles	Steep red rock cliffs to river bottom, wide grassy bottom abutting cliff.	recreation scenic
S4(S50)	¼	T. 57 N., R. 63 W., section 13, SWNE	approximately 13 air miles to S3	Broad cottonwood riparian zone grading into prairie; no access.	recreation scenic

APPENDIX C

ATTACHMENT C
NEWCASTLE RMP PLANNING AREA
WILD AND SCENIC RIVERS SUITABILITY REVIEW

WATERWAY REVIEWED	TOTAL LENGTH (miles)	TOTAL BLM LENGTH (miles)	DETER-MINATION	RATIONALE*
West Plum Creek	~10½	⅜	unsuitable	1, 2
Blacktail Canyon Creek	~4	¼	unsuitable	1, 2
Belle Fourche River	~75	<2⅛	unsuitable	1, 2, 3
Inyan Kara Creek	~13	<⅛	unsuitable	1, 2
Cave Springs Creek	~3	1	unsuitable	1, 2
Bear Run Creek	~5	⅜	unsuitable	1, 2
Whoopup Creek	~13	3⅜	unsuitable	1, 2, 4
Stockade Beaver Creek	No longer in federal ownership			

* Rationale codes:

1 -- Not manageable due to small percent of federal ownership.
2 -- Federal ownership not enough to preserve outstanding values without adjacent nonfederal lands.
3 -- Conflicting management goals on federal, private, and state ownership.
4 -- Currently portions managed as special management area for other values.

APPENDIX D
THE PLANNING PROCESS

The process for the development, approval, maintenance, and amendment or revision of the RMPs and their associated EISs was initiated under the authority of section 202(f) of FLPMA and section 202(c) of NEPA. The process is guided by BLM planning regulations in 43 CFR 1600 and the CEQ regulations in 40 CFR 1500. The steps used in the planning process are described below.

STEP 1: IDENTIFICATION OF ISSUES

Step 1 is intended to identify resource management problems, conflicts, or opportunities that can be resolved through the planning process.

A *Federal Register* notice was published, a scoping letter was sent to interested parties, and an open house was held to gain public input into identifying land and resource use, management problems, conflicts, or opportunities in the planning area. In addition, a letter was also sent to 17 Native American individuals and tribes (appendix M in the second draft). The preliminary issues the BLM identified were included in this scoping letter. Along with the general public, other federal agencies and state and local governments were also asked to participate in the issue identification process. The BLM combined the information from these and internal sources into five planning issues that could be resolved through the RMP EIS process.

STEP 2: DEVELOPMENT OF PLANNING CRITERIA

Step 2 involved development of criteria to identify the standards, guidelines, and constraints that would apply to the planning process. These criteria are the "sideboards" that were applied by the specialists so that their work was focused on resolution of the issues. The original criteria were made available to interested parties for review.

STEP 3: INVENTORY AND DATA COLLECTION

Step 3 allowed for the collection of various kinds of issue-related resource, environmental, social, and economic data. During this phase, current information was collected on resource values in the planning area to supplement existing information in resource area files.

STEP 4: ANALYSIS OF THE MANAGEMENT SITUATION

The MSA supports all subsequent steps in planning. Each specialist on the interdisciplinary team was involved in preparing the MSA. The MSA included a physical profile and brief description of each resource as well as the current management situation describing current management practices by resource and the status of on-going programs. This section provided the basis for the description of the No Action Alternative and the basis for the planning issues. It also provided the analysis of future demands which identified present and future capabilities, problems, and conflicts of current management. The MSA is on file at the Newcastle office.

STEP 5: FORMULATION OF ALTERNATIVES

Five alternatives were developed by the interdisciplinary team. These alternatives, described in chapter 2 of each Draft RMP EIS, include the No Action Alternative (continuation of current management) and the Preferred Alternative. The alternatives represent a choice of management actions to achieve goals, and they provide for resource use and environmental protection.

STEP 6: ANALYSIS OF ENVIRONMENTAL CONSEQUENCES OF ALTERNATIVES

The physical, biological, social, and economical effects of implementing each alternative were assessed. This step is the environmental impact analysis required by NEPA. The analysis is presented in chapter 4.

STEP 7: SELECTION OF THE PREFERRED MANAGEMENT PLAN

Selection of the preferred management plan will be based on public input and coordination, current BLM management policies and directions, and analysis of each alternative.

STEP 8: SELECTION OF THE PROPOSED RESOURCE MANAGEMENT PLAN

Based on the results of public review and comment on the Draft RMP EIS, a Proposed RMP will be selected and published with a final EIS. The selection and

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approval of the RMP is made after a 30-day protest period on the proposed plan. Any person who participated in the planning process and who has an interest which is or may be adversely affected by adoption of the plan may protest its approval. A protest may raise only those issues which were submitted for the record during the planning process.

STEP 9: MONITORING AND EVALUATION

This step involves monitoring the selected plan. The results of implementing the plan will be evaluated to determine the planning action's effectiveness. Monitoring may result in revisions to the plan.

APPENDIX E

WYOMING BLM MITIGATION GUIDELINES FOR SURFACE-DISTURBING AND DISRUPTIVE ACTIVITIES

INTRODUCTION

These guidelines are primarily for the purpose of attaining statewide consistency in how requirements are determined for avoiding and mitigating environmental impacts and resource and land use conflicts. Consistency in this sense does not mean that identical requirements would be applied for all similar types of land use activities that may cause similar types of impacts. Nor does it mean that the requirements or guidelines for a single land use activity would be identical in all areas.

There are two ways the mitigation guidelines are used in the RMP EIS process: (1) as part of the planning criteria in developing the RMP alternatives, and (2) in the analytical processes of both developing the alternatives and analyzing the impacts of the alternatives. In the first case, an assumption is made that any one or more of the mitigations will be appropriately included as conditions of relevant actions being proposed or considered in each alternative. In the second case, the mitigations are used (1) to develop a baseline for measuring and comparing impacts among the alternatives; (2) to identify other actions and alternatives that should be considered, and (3) to help determine whether more stringent or less stringent mitigations should be considered.

The EIS for the RMP does not decide or dictate the exact wording or inclusion of these guidelines. Rather, the guidelines are used in the RMP EIS process as a tool to help develop the RMP alternatives and to provide a baseline for comparative impact analysis in arriving at RMP decisions. These guidelines will be used in the same manner in analyzing activity plans and other site-specific proposals. These guidelines and their wording are matters of policy. As such, specific wording is subject to change primarily through administrative review, not through the RMP EIS process. Any further changes that may be made in the continuing refinement of these guidelines and any development of program-specific standard stipulations will be handled in another forum, including appropriate public involvement and input.

PURPOSE

The purpose of the "Wyoming BLM Mitigation Guidelines" are (1) to reserve, for the BLM, the right to modify the operations of all surface and other human presence disturbance activities as part of the statutory requirements for environmental protection, and (2) to inform a potential lessee, permittee, or operator of the requirements that must be met when using BLM-administered public lands. These guidelines have been written in a format that will allow for (1) their direct use as stipulations, and (2) the addition of specific or specialized mitigation following the submission of a detailed plan of development or other project proposal, and an environmental analysis.

Those resource activities or programs currently without a standardized set of permit or operation stipulations can use the mitigation guidelines as stipulations or as conditions of approval, or as a baseline for developing specific stipulations for a given activity or program.

Because use of the mitigation guidelines was integrated into the RMP EIS process and will be integrated into the site-specific environmental analysis process, the application of stipulations or mitigation requirements derived through the guidelines will provide more consistency with planning decisions and plan implementation than has occurred in the past. Application of the mitigation guidelines to all surface and other human presence disturbance activities concerning BLM-administered public lands and resources will provide more uniformity in mitigation than has occurred in the past.

MITIGATION GUIDELINES

1. Surface Disturbance Mitigation Guideline

Surface disturbance will be prohibited in any of the following areas or conditions. Exception, waiver, or modification of this limitation may be approved in writing, including documented supporting analysis, by the Authorized Officer.

a. Slopes in excess of 25 percent.

b. Within important scenic areas (Class I and II Visual Resource Management Areas).

c. Within 500 feet of surface water and/or riparian areas.

d. Within either one-quarter mile or the visual horizon (whichever is closer) of historic trails.

e. Construction with frozen material or during periods when the soil material is saturated or when watershed damage is likely to occur.

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Guidance

The intent of the SURFACE DISTURBANCE MITIGATION GUIDELINE is to inform interested parties (potential lessees, permittees, or operators) that when one or more of the five (1a through 1e) conditions exist, surface-disturbing activities will be prohibited unless or until a permittee or his designated representative and the surface management agency (SMA) arrive at an acceptable plan for mitigation of anticipated impacts. This negotiation will occur prior to development.

Specific criteria (e.g., 500 feet from water) have been established based upon the best information available. However, such items as geographical areas and seasons must be delineated at the field level.

Exception, waiver, or modification of requirements developed from this guideline must be based upon environmental analysis of proposals (e.g., activity plans, plans of development, plans of operation, applications for permit to drill) and, if necessary, must allow for other mitigation to be applied on a site-specific basis.

2. Wildlife Mitigation Guideline

a. To protect important big game winter habitat, activities or surface use will not be allowed from November 15 to April 30 within certain areas encompassed by the authorization. The same criteria apply to defined big game birthing areas from May 1 to June 30.

Application of this limitation to operation and maintenance of a developed project must be based on environmental analysis of the operational or production aspects.

Exception, waiver, or modification of this limitation in any year may be approved in writing, including documented supporting analysis, by the Authorized Officer.

b. To protect important raptor and/or sage and sharp-tailed grouse nesting habitat, activities or surface use will not be allowed from February 1 to July 31 within certain areas encompassed by the authorization. The same criteria apply to defined raptor and game bird winter concentration areas from November 15 to April 30.

Application of this limitation to operation and maintenance of a developed project must be based on environmental analysis of the operational or production aspects.

Exception, waiver, or modification of this limitation in any year may be approved in writing, including documented supporting analysis, by the Authorized Officer.

c. No activities or surface use will be allowed on that portion of the authorization area identified within (legal description) for the purpose of protecting (e.g., sage/sharp-tailed grouse breeding grounds, and/or other species/activities) habitat.

Exception, waiver, or modification of this limitation in any year may be approved in writing, including documented supporting analysis, by the Authorized Officer.

d. Portions of the authorized use area legally described as (legal description), are known or suspected to be essential habitat for (name) which is a threatened or endangered species. Prior to conducting any onsite activities, the lessee/permittee will be required to conduct inventories or studies in accordance with BLM and U.S. Fish and Wildlife Service guidelines to verify the presence or absence of this species. In the event that (name) occurrence is identified, the lessee/permittee will be required to modify operational plans to include the protection requirements of this species and its habitat (e.g., seasonal use restrictions, occupancy limitations, facility design modifications).

Guidance

The WILDLIFE MITIGATION GUIDELINE is intended to provide two basic types of protection: seasonal restriction (2a and 2b) and prohibition of activities or surface use (2c). Item 2d is specific to situations involving threatened or endangered species. Legal descriptions will ultimately be required and should be measurable and legally definable. There are no minimum subdivision requirements at this time. The area delineated can and should be defined as necessary, based upon current biological data, prior to the time of processing an application and issuing the use authorization. The legal description must eventually become a part of the condition for approval of the permit, plan of development, and/or other use authorization.

The seasonal restriction section identifies three example groups of species and delineates three similar time frame restrictions. The big game species including elk, moose, deer, antelope, and bighorn sheep, all require protection of crucial winter range between November 15 and April 30. Elk and bighorn sheep also require protection from disturbance from May 1 to June 30, when they typically occupy distinct calving and lambing areas. Raptors include eagles, accipiters, falcons (peregrine, prairie, and merlin), buteos (ferruginous and Swainson's hawks), osprey, and burrowing owls. The raptors and sage and sharp-tailed grouse require nesting protection between February 1 and July 31. The same birds often require protection from disturbance from November 15 through April 30 while they occupy winter concentration areas.

Item 2c, the prohibition of activity or surface use, is intended for protection of specific wildlife habitat areas or values within the use area that cannot be protected by using seasonal restrictions. These areas or values must be factors that limit life-cycle activities (e.g., sage grouse strutting grounds, known threatened and endangered species habitat).

Exception, waiver, or modification of requirements developed from this guideline must be based upon environmental analysis of proposals (e.g., activity plans, plans of development, plans of operation, applications for permit to drill) and, if necessary, must allow for other mitigation to be applied on a site-specific basis.

3. Cultural Resource Mitigation Guideline

When a proposed discretionary land use has potential for affecting the characteristics which qualify a cultural property for the National Register of Historic Places (National Register), mitigation will be considered. In accordance with Section 106 of the Historic Preservation Act, procedures specified in 36 CFR 800 will be used in consultation with the Wyoming State Historic Preservation Officer and the Advisory Council on Historic Preservation in arriving at determinations regarding the need and type of mitigation to be required.

Guidance

The preferred strategy for treating potential adverse effects on cultural properties is "avoidance." If avoidance involves project relocation, the new project area may also require cultural resource inventory. If avoidance is imprudent or unfeasible, appropriate mitigation may include excavation (data recovery), stabilization, monitoring, protection barriers and signs, or other physical and administrative measures.

Reports documenting results of cultural resource inventory, evaluation, and the establishment of mitigation alternatives (if necessary) shall be written according to standards contained in BLM Manuals, the cultural resource permit stipulations, and in other policy issued by the BLM. These reports must provide sufficient information for Section 106 consultation. Reports shall be reviewed for adequacy by the appropriate BLM cultural resource specialist. If cultural properties on, or eligible for, the National Register are located within these areas of potential impact and cannot be avoided, the Authorized Officer shall begin the Section 106 consultation process in accordance with the procedures contained in 36 CFR 800.

Mitigation measures shall be implemented according to the mitigation plan approved by the BLM Authorized Officer. Such plans are usually prepared by the land use applicant according to BLM specifications. Mitigation plans will be reviewed as part of Section 106 consultation for National Register eligible or listed properties. The extent and nature of recommended mitigation shall be commensurate with the significance of the cultural resource involved and the anticipated extent of damage. Reasonable costs for mitigation will be borne by the land use applicant. Mitigation must be cost effective and realistic. It must consider project requirements and limitations, input from concerned parties, and be BLM approved or BLM formulated.

Mitigation of paleontological and natural history sites will be treated on a case-by-case basis. Factors such as site significance, economics, safety, and project urgency must be taken into account when making a decision to mitigate. Authority to protect (through mitigation) such values is provided for in FLPMA, Section 102(a)(8). When avoidance is not possible, appropriate mitigation may include excavation (data recovery), stabilization, monitoring, protection barriers and signs, or other physical and administrative protection measures.

4. Special Resource Mitigation Guideline

To protect (resource value), activities or surface use will not be allowed (i.e., within a specific distance of the resource value or between date to date) in (legal description).

Application of this limitation to operation and maintenance of a developed project must be based on environmental analysis of the operational or production aspects. Exception, waiver, or modification of this limitation in any year may be approved in writing, including documented supporting analysis, by the Authorized Officer.

Example Resource Categories (select or identify category and specific resource value):

a. Recreation areas.
b. Special natural history or paleontological features.
c. Special management areas.
d. Sections of major rivers.
e. Prior existing rights-of-way.
f. Occupied dwellings.
g. Other (specify).

Guidance

The SPECIAL RESOURCE MITIGATION GUIDELINE is intended for use only in site-specific situations where one of the first three general mitigation guidelines will not adequately address the concern. The resource value, location, and specific restrictions must be clearly identified. A detailed plan addressing specific mitigation and special restrictions will be required prior to disturbance or development and will become a condition for approval of the permit, plan of development, or other use authorization.

Exception, waiver, or modification of requirements developed from this guideline must be based upon environmental analysis of proposals (e.g., activity plans, plans of development, plans of operation, applications for permit to drill) and, if necessary, must allow for other mitigation to be applied on a site-specific basis.

5. No Surface Occupancy Guideline

No Surface Occupancy will be allowed on the following described lands (legal description) because of (resource value).

Example Resource Categories (select or identify category and specific resource value):

a. Recreation Areas (e.g., campgrounds, historic trails, national monuments).

b. Major reservoirs/dams.

c. Special management area (e.g., known threatened or endangered species habitat, areas suitable for consideration for wild and scenic rivers designation).

d. Other (specify).

Guidance

The NO SURFACE OCCUPANCY (NSO) MITIGATION GUIDELINE is intended for use only when other mitigation is determined insufficient to adequately protect the public interest and is the only alternative to "no development" or "no leasing." The legal description and resource value of concern must be identified and be tied to an NSO land use planning decision.

Waiver of, or exception(s) to, the NSO requirement will be subject to the same test used to initially justify its imposition. If, upon evaluation of a site-specific proposal, it is found that less restrictive mitigation would adequately protect the public interest or value of concern, then a waiver or exception to the NSO requirement is possible. The record must show that because conditions or uses have changed, less restrictive requirements will protect the public interest. An environmental analysis must be conducted and documented (e.g., environmental assessment, environmental impact statement, etc., as necessary) in order to provide the basis for a waiver or exception to an NSO planning decision. Modification of the NSO requirement will pertain only to refinement or correction of the location(s) to which it applied. If the waiver, exception, or modification is found to be consistent with the intent of the planning decision, it may be granted. If found inconsistent with the intent of the planning decision, a plan amendment would be required before the waiver, exception, or modification could be granted.

When considering the "no development" or "no leasing" option, a rigorous test must be met and fully documented in the record. This test must be based upon stringent standards described in the land use planning document. Since rejection of all development rights is more severe than the most restrictive mitigation requirement, the record must show that consideration was given to development subject to reasonable mitigation, including "no surface occupancy." The record must also show that other mitigation was determined to be insufficient to adequately protect the public interest. A "no development" or "no leasing" decision should not be made solely because it appears that conventional methods of development would be unfeasible, especially where an NSO restriction may be acceptable to a potential permittee. In such cases, the potential permittee should have the opportunity to decide whether or not to go ahead with the proposal (or accept the use authorization), recognizing that an NSO restriction is involved.

APPENDIX F

STANDARDS FOR HEALTHY RANGELANDS

AND

GUIDELINES FOR LIVESTOCK GRAZING MANAGEMENT

FOR

PUBLIC LANDS ADMINISTERED

BY THE

BUREAU OF LAND MANAGEMENT

IN THE

STATE OF WYOMING

AUGUST 12, 1997

353

APPENDIX F

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Washington, DC 20240

In Reply Refer To:
4180 (220)

MEMORANDUM

To: The Secretary

Fr
Through: Bob Armstrong AUG 12 1997
Assistant Secretary, Land and Minerals Management

From: Director, Bureau of Land Management

Subject: Approval of Wyoming Standards and Guidelines

In accordance with 43 CFR 4180.2(b), the Bureau of Land Management Wyoming State Director is submitting the attached Wyoming Standards for Healthy Rangelands and Guidelines for Livestock Grazing Management for Secretarial approval. The standards and guidelines have been reviewed by the Departmental Review Team who found that they comply with the requirements of the regulations. The standards and guidelines were developed with full public participation and in consultation with Wyoming's State resource advisory council and are in conformance with the appropriate land use plans.

I recommend that you approve the Wyoming Standards for Healthy Rangelands and Guidelines for Livestock Grazing Management.

I concur with your recommendation and approve the Wyoming Standards for Healthy Rangelands and Guidelines for Livestock Grazing Management for immediate implementation.

Approve ____________ Disapprove ____________
AUG 12 1997
Date ____________ Date ____________

Attachment

Prepared by: ext:

AUG 20 1997

SO	RP&M ✓
ASO	W&LA
OEA	DSS
ESO	CF
LAW	LEAD Resp ✓

INTRODUCTION

According to the Department of the Interior's final rule for grazing administration, effective August 21, 1995, the Wyoming Bureau of Land Management (BLM) State Director is responsible for the development of standards for healthy rangelands and guidelines for livestock grazing management on 18 million acres of Wyoming's public rangelands. The development and application of these standards and guidelines are to achieve the four fundamentals of rangeland health outlined in the grazing regulations (43 CFR 4180.1). Those four fundamentals are: (1) watersheds are functioning properly; (2) water, nutrients, and energy are cycling properly; (3) water quality meets State standards; and (4) habitat for special status species is protected.

Standards address the health, productivity, and sustainability of the BLM administered public rangelands and represent the minimum acceptable conditions for the public rangelands. The standards apply to all resource uses on public lands. Their application will be determined as use-specific guidelines are developed. Standards are synonymous with goals and are observed on a landscape scale. They describe healthy rangelands rather than important rangeland by-products. The achievement of a standard is determined by observing, measuring, and monitoring appropriate indicators. An indicator is a component of a system whose characteristics (e.g., presence, absence, quantity, and distribution) can be observed, measured, or monitored based on sound scientific principles.

Guidelines provide for, and guide the development and implementation of, reasonable, responsible, and cost-effective management practices at the grazing allotment and watershed level. The guidelines in this document apply specifically to livestock grazing management practices on the BLM administered public lands. These management practices will either maintain existing desirable conditions or move rangelands toward statewide standards within reasonable timeframes. Appropriate guidelines will ensure that the resultant management practices reflect the potential for the watershed, consider other uses and natural influences, and balance resource goals with social, cultural/historic, and economic opportunities to sustain viable local communities. Guidelines, like standards, apply statewide.

Implementation of the Wyoming standards and guidelines will generally be done in the following manner. Grazing allotments or groups of allotments in a watershed will be reviewed based on the BLM's current allotment categorization and prioritization process. Allotments with existing management plans and high-priority allotments will be reviewed first. Lower priority allotments will be reviewed as time allows or when it becomes necessary for BLM to review the permit/lease for other reasons such as permit/lease transfers, permittee/lessee requests for change in use, etc. The permittees and interested publics will be notified when allotments are scheduled for review and encouraged to participate in the review. The review will first determine if an allotment meets each of the six standards. If it does, no further action will be necessary. If any of the standards aren't being met, then rationale explaining the contributing factors will be prepared. If livestock grazing practices are found to be among the contributing factors, corrective actions consistent with the guidelines will be developed and implemented before the next grazing season in accordance with 43 CFR 4180. If a lack of data prohibits the reviewers from determining if a standard is being met, then a strategy will be developed to acquire the data in a timely manner.

On a continuing basis, the Standards for Healthy Rangelands will direct on-the-ground management on the public lands. They will serve to focus the on-going development and implementation of activity plans toward the maintenance or the attainment of healthy rangelands.

Quantifiable resource objectives and specific management practices to maintain or achieve the standards will be developed at the local BLM District and Resource Area levels and will consider all reasonable and practical options available to achieve desired results on a watershed or grazing allotment scale. The objectives shall be reflected in site-specific activity or implementation plans as well as in livestock grazing permits/leases for the public lands. These objectives and practices may be developed formally or informally through mechanisms available and suited to local needs (such as Coordinated Resource Management [CRM] efforts).

The development and implementation of standards and guidelines will enable on-the-ground management of the public rangelands to maintain a clear and responsible focus on both the health of the land and its dependent natural and human communities. This development and implementation will ensure that any mechanisms currently being employed or that may be developed in the future will maintain a consistent focus on these essential concerns. This development and implementation will also enable immediate attention to be brought to bear on esisting resource conserns.

These standards and guidelines are compatible with BLM's three-tiered land use planning process. The first tier includes the laws, regulations, and policies governing BLM's administration and management of the public lands and their uses. The previously mentioned fundamentals of rangeland health specified in 43 CFR 4180.1, the requirement for BLM to develop these state (or regional) standards and guidelines, and the standards and guidelines themselves, are part of this first tier. Also part of this first tier are the specific requirements of various Federal laws and the objectives of 43 CFR 4100.2 that require BLM to consider the social and economic well-being of the local communities in its management process.

These standards and guidelines will provide for statewide consistency and guidance in the preparation, amendment, and maintenance of BLM land use plans, which represent the second tier of the planning process. The BLM land use plans provide general allocation decisions concerning the kinds of resource and land uses that can occur on the BLM administered public lands, where they can occur, and the types of conditional requirements under which they can occur. In general, the standards will be the basis for development of planning area-specific management objectives concerning rangeland health and productivity, and the guidelines will direct development of livestock grazing management actions to help accomplish those objectives.

The third tier of the BLM planning process, activity or implementation planning, is directed by the applicable land use plan and, therefore, by the standards and guidelines. The standards and guidelines, as BLM statewide policy, will also directly guide development of the site-specific objectives and the methods and practices used to implement the land use plan decisions. Activity or implementation plans contain objectives which describe the site-specific conditions desired. Grazing permits/leases for the public lands contain terms and conditions which describe specific actions required to attain or maintain the desired conditions. Through monitoring and evaluation, the BLM, grazing permittees, and other interested parties determine if progress is being made to achieve activity plan objectives.

Wyoming rangelands support a variety of uses which are of significant economic importance to the State and its communities. These uses include oil and gas production, mining, recreation and tourism, fishing, hunting, wildlife viewing, and livestock grazing. Rangelands also provide amenities which contribute to the quality of life in Wyoming such as open spaces, solitude, and opportunities for personal renewal. Wyoming's rangelands should be managed with consideration of the State's historical, cultural, and social development and in a manner which contributes to a diverse, balanced, competitive, and resilient economy in order to provide opportunity for economic development. Healthy rangelands can best sustain these uses.

To varying degrees, BLM management of the public lands and resources plays a role in the social and economic well-being of Wyoming communities. The National Environmental Policy Act (part of the above-mentioned first planning tier) and various other laws and regulations mandate the BLM to analyze the socioeconomic impacts of actions occurring on public rangelands. These analyses occur during the environmental analysis process of land use planning (second planning tier), where resource allocations are made, and during the environmental analysis process of activity or implementation planning (third planning tier). In many situations, factors that affect the social and economic well-being of local communities extend far beyond the scope of BLM management or individual public land users' responsibilities. In addition, since standards relate primarily to physical and biological features of the landscape, it is very difficult to provide measurable socioeconomic indicators that relate to the health of rangelands. It is important that standards be realistic and within the control of the land manager and users to achieve.

STANDARDS FOR HEALTHY PUBLIC RANGELANDS

STANDARD #1

Within the potential of the ecological site (soil type, landform, climate, and geology), soils are stable and allow for water infiltration to provide for optimal plant growth and minimal surface runoff.

THIS MEANS THAT:

The hydrologic cycle will be supported by providing for water capture, storage, and sustained release. Adequate energy flow and nutrient cycling through the system will be achieved as optimal plant growth occurs. Plant communities are highly varied within Wyoming.

INDICATORS MAY INCLUDE BUT ARE NOT LIMITED TO:

- Water infiltration rates
- Soil compaction
- Erosion (rills, gullies, pedestals, capping)
- Soil micro-organisms
- Vegetative cover (gully bottoms and slopes)
- Bare ground and litter

The above indicators are applied as appropriate to the potential of the ecological site.

STANDARD #2

Riparian and wetland vegetation has structural, age, and species diversity characteristic of the stage of channel succession and is resilient and capable of recovering from natural and human disturbance

in order to provide forage and cover, capture sediment, dissipate energy, and provide for groundwater recharge.

THIS MEANS THAT:

Wyoming has highly varied riparian and wetland systems on public lands. These systems vary from large rivers to small streams and from springs to large wet meadows. These systems are in various stages of natural cycles and may also reflect other disturbance that is either localized or widespread throughout the watershed. Riparian vegetation captures sediments and associated materials, thus enhancing the nutrient cycle by capturing and utilizing nutrients that would otherwise move through a system unused.

INDICATORS MAY INCLUDE BUT ARE NOT LIMITED TO:

- Erosion and deposition rate
- Channel morphology and floodplain function
- Channel succession and erosion cycle
- Vegetative cover
- Plant composition and diversity (species, age class, structure, successional stages, desired plant community, etc.)
- Bank stability
- Woody debris and instream cover
- Bare ground and litter

The above indicators are applied as appropriate to the potential of the ecological site.

STANDARD #3

Upland vegetation on each ecological site consists of plant communities appropriate to the site which are resilient, diverse, and able to recover from natural and human disturbance.

THIS MEANS THAT:

In order to maintain desirable conditions and or recover from disturbance within acceptable timeframes, plant communities must have the components present to support the nutrient cycle and adequate energy flow. Plants depend on nutrients in the soil and energy derived from sunlight. Nutrients stored in the soil are used over and over by plants, animals, and microorganisms. The amount of nutrients available and the speed with which they cycle among plants, animals, and the soil are fundamental components of rangeland health. The amount, timing, and distribution of energy captured through photosynthesis are fundamental to the function of rangeland ecosystems.

INDICATORS MAY INCLUDE BUT ARE NOT LIMITED TO:

- Vegetative cover
- Plant composition and diversity (species, age class, structure, successional stages, desired plant community, etc.)
- Bare ground and litter
- Erosion (rills, gullies, pedestals, capping)
- Water infiltration rates

The above indicators are applied as appropriate to the potential of the ecological site.

STANDARD #4

Rangelands are capable of sustaining viable populations and a diversity of native plant and animal species appropriate to the habitat. Habitats that support or could support threatened species, endangered species, species of special concern, or sensitive species will be maintained or enhanced.

THIS MEANS THAT:

The management of Wyoming rangelands will achieve or maintain adequate habitat conditions that support diverse plant and animal species. These may include listed threatened or endangered species (U.S. Fish and Wildlife-designated), species of special concern (BLM-designated), and other sensitive species (State of Wyoming-designated). The intent of this standard is to allow the listed species to recover and be delisted, and to avoid or prevent additional species becoming listed.

INDICATORS MAY INCLUDE BUT ARE NOT LIMITED TO:

- Noxious weeds
- Species diversity
- Age class distribution
- All indicators associated with the upland and riparian standards:
- Population trends
- Habitat fragmentation

The above indicators are applied as appropriate to the potential of the ecological site.

STANDARD #5

Water quality meets State standards.

THIS MEANS THAT:

The State of Wyoming is authorized to administer the Clean Water Act. BLM management actions or use authorizations will comply with all Federal and State

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water quality laws, rules and regulations to address water quality issues that originate on public lands. Provisions for the establishment of water quality standards are included in the Clean Water Act, as amended, and the Wyoming Environmental Quality Act, as amended. Regulations are found in Part 40 of the Code of Federal Regulations and in *Wyoming's Water Quality Rules and Regulations*. The latter regulations contain Quality Standards for Wyoming Surface Waters.

Natural processes and human actions influence the chemical, physical, and biological characteristics of water. Water quality varies from place to place with the seasons, the climate, and the kind substrate through which water moves. Therefore, the assessment of water quality takes these factors into account.

INDICATORS MAY INCLUDE BUT ARE NOT LIMITED TO:

- Chemical characteristics (e.g., pH, conductivity, dissolved oxygen)
- Physical characteristics (e.g., sediment, temperature, color)
- Biological characteristics (e.g., macro- and microinvertebrates, fecal coliform, and plant and animal species)

STANDARD #6

Air quality meets State standards.

THIS MEANS THAT:

The State of Wyoming is authorized to administer the Clean Air Act. BLM management actions or use authorizations will comply with all Federal and State air quality laws, rules, regulations and standards. Provisions for the establishment of air quality standards are included in the Clean Air Act, as amended, and the Wyoming Environmental Quality Act, as amended. Regulations are found in Part 40 of the Code of Federal Regulations and in *Wyoming Air Quality Standards and Regulations*.

INDICATORS MAY INCLUDE BUT ARE NOT LIMITED TO:

- Particulate matter
- Sulfur dioxide
- Photochemical oxidants (ozone)
- Volatile organic compounds (hydrocarbons)
- Nitrogen oxides
- Carbon monoxide
- Odors
- Visibility

BLM WYOMING GUIDELINES FOR LIVESTOCK GRAZING MANAGEMENT

1. Timing, duration, and levels of authorized grazing will ensure that adequate amounts of vegetative ground cover, including standing plant material and litter, remain after authorized use to support infiltration, maintain soil moisture storage, stabilize soils, allow the release of sufficient water to maintain system function, and to maintain subsurface soil conditions that support permeability rates and other processes appropriate to the site.

2. Grazing management practices will restore, maintain, or improve riparian plant communities. Grazing management strategies consider hydrology, physical attributes, and potential for the watershed and the ecological site. Grazing management will maintain adequate residual plant cover to provide for plant recovery, residual forage, sediment capture, energy dissipation, and groundwater recharge.

3. Range improvement practices (instream structures, fences, water troughs, etc.) in and adjacent to riparian areas will ensure that stream channel morphology (e.g., gradient, width/depth ratio, channel roughness and sinuosity) and functions appropriate to climate and landform are maintained or enhanced. The development of springs, seeps, or other projects affecting water and associated resources shall be designed to protect the ecological and hydrological functions, wildlife habitat, and significant cultural, historical, and archaeological values associated with the water source. Range improvements will be located away from riparian areas if they conflict with achieving or maintaining riparian function.

4. Grazing practices that consider the biotic communities as more than just a forage base will be designed in order to ensure that the appropriate kinds and amounts of soil organisms, plants, and animals to support the hydrologic cycle, nutrient cycle, and energy flow are maintained or enhanced.

5. Continuous season-long or other grazing management practices that hinder the completion of plants' life-sustaining reproductive and/or nutrient cycling processes will be modified to ensure adequate periods of rest at the appropriate times. The rest periods will provide for seedling establishment or other necessary processes at levels sufficient to move the ecological site condition toward the resource objective and subsequent achievement of the standard.

6. Grazing management practices and range improvements will adequately protect vegetative cover and physical conditions and maintain, restore, or enhance water quality to meet resource objectives. The effects of new range improvements (water developments, fences, etc.) on the health and function of rangelands will be carefully considered prior to their implementation.

7. Grazing management practices will incorporate the kinds and amounts of use that will restore, maintain, or enhance habitats to assist in the recovery of Federal threatened and endangered species or the conservation of federally-listed species of concern and other State-designated special status species. Grazing management practices will maintain existing habitat or facilitate vegetation change toward desired habitats. Grazing management will consider threatened and endangered species and their habitats.

8. Grazing management practices and range improvements will be designed to maintain or promote the physical and biological conditions necessary to sustain native animal populations and plant communities. This will involve emphasizing native plant species in the support of ecological function and incorporating the use of non-native species only in those situations in which native plant species are not available in sufficient quantities or are incapable of maintaining or achieving properly functioning conditions and biological health.

9. Grazing management practices on uplands will maintain desired plant communities or facilitate change toward desired plant communities.

DEFINITIONS

ACTIVITY PLANS

Allotment Management Plans (AMPs), Habitat Management Plans (HMPs), Watershed Management Plans (WMPs), Wild Horse Management Plans (WHMPs), and other plans developed at the local level to address specific concerns and accomplish specific objectives.

COORDINATED RESOURCE MANAGEMENT (CRM)

A group of people working together to develop common resource goals and resolve natural resource concerns. CRM is a people process that strives for win-win situations through consensus-based decisionmaking.

DESIRED PLANT COMMUNITY

A plant community which produces the kind, proportion, and amount of vegetation necessary for meeting or exceeding the land use plan/activity plan objectives established for an ecological site(s). The desired plant community must be consistent with the site's capability to produce the desired vegetation through management, land treatment, or a combination of the two.

ECOLOGICAL SITE

An area of land with specific physical characteristics that differs from other areas both in its ability to produce distinctive kinds and amounts of vegetation and in its response to management.

EROSION

(v.) Detachment and movement of soil or rock fragments by water, wind, ice, or gravity. (n.) The land surface worn away by running water, wind, ice, or other geological agents, including such processes as gravitational creep.

GRAZING MANAGEMENT PRACTICES

Grazing management practices include such things as grazing systems (rest-rotation, deferred rotation, etc.), timing and duration of grazing, herding, salting, etc. They do not include physical range improvements.

GUIDELINES (For Grazing Management)

Guidelines provide for, and guide the development and implementation of, reasonable, responsible, and cost-effective management actions at the allotment and watershed level which move rangelands toward statewide standards or maintain existing desirable conditions. Appropriate guidelines will ensure that the resultant management actions reflect the potential for the watershed, consider other uses and natural influences, and balance resource goals with social, cultural/historic, and economic opportunities to sustain viable local communities. Guidelines, and therefore, the management actions they engender, are based on sound science, past and present management experience, and public input.

INDICATOR

An indicator is a component of a system whose characteristics (e.g., presence, absence, quantity, and distribution) can be observed, measured, or monitored based on sound scientific principles. An indicator can be evaluated at a site- or species-specific level. Monitoring of an indicator must be able to show change within timeframes acceptable to management and be capable of showing how the health of the ecosystem is changing in response to specific management actions. Selection of the appropriate indicators to be observed, measured, or monitored in a particular allotment is a critical aspect of early communication among the interests involved on-the-ground. The most useful indicators are those for which change or trend can be easily quantified and for which agreement as to the significance of the indicator is broad based.

LITTER

The uppermost layer of organic debris on the soil surface, essentially the freshly fallen or slightly decomposed vegetal material.

MANAGEMENT ACTIONS

Management actions are the specific actions prescribed by the BLM to achieve resource objectives, land use allocations, or other program or multiple use goals. Management actions include both grazing management practices and range improvements.

OBJECTIVE

An objective is a site-specific statement of a desired rangeland condition. It may contain either or both qualitative elements and quantitative elements. Objectives frequently speak to change. They are the focus of monitoring and evaluation activities at the local level. Monitoring of the indicators would show negative changes or positive changes. Objectives should focus on indicators of greatest interest for the area in question.

RANGE IMPROVEMENTS

Range improvements include such things as corrals, fences, water developments (reservoirs, spring developments, pipelines, wells, etc.) and land treatments (prescribed fire, herbicide treatments, mechanical treatments, etc.).

APPENDIX F

RANGELAND

Land on which the native vegetation (climax or natural potential) is predominantly grasses, grass-like plants, forbs, or shrubs. This includes lands revegetated naturally or artificially when routine management of that vegetation is accomplished mainly through manipulation of grazing. Rangelands include natural grasslands, savannas, shrublands, most deserts, tundra, alpine communities, coastal marshes, and wet meadows.

RANGELAND HEALTH

The degree to which the integrity of the soil and ecological processes of rangeland ecosystems are sustained.

RIPARIAN

An area of land directly influenced by permanent water. It has visible vegetation or physical characteristics reflective of permanent water influence. Lakeshores and streambanks are typical riparian areas. Excluded are such sites as ephemeral streams or washes that do not have vegetation dependent on free water in the soil.

STANDARDS

Standards are synonymous with goals and are observed on a landscape scale. Standards apply to rangeland health and not to the important by-products of healthy rangelands. Standards relate to the current capability or realistic potential of a specific site to produce these by-products, not to the presence or absence of the products themselves. It is the sustainability of the processes, or rangeland health, that produces these by-products.

TERMS AND CONDITIONS

Terms and conditions are very specific land use requirements that are made a part of the land use authorization in order to assure maintenance or attainment of the standard. Terms and conditions may incorporate or reference the appropriate portions of activity plans (e.g., Allotment Management Plans). In other words, where an activity plan exists that contains objectives focused on meeting the standards, compliance with the plan may be the only term and condition necessary in that allotment.

UPLAND

Those portions of the landscape which do not receive additional moisture for plant growth from run-off, streamflow, etc. Typically these are hills, ridgetops, valley slopes, and rolling plains.

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APPENDIX G
THE FORESTRY PROGRAM

OVERVIEW

This appendix was developed to provide more information about the forestlands and the forestry program.

Forest management is directed to manage the forestlands in a healthy productive condition. To keep the forestland in a healthy productive condition, forest management activities may include forest inventories, site preparation, timber stand improvement (precommercial and commercial thinning), harvesting mature timber, timber sale preparation and sale administration, and surveillance of forestlands for insect and disease problems.

FORESTED LAND

All land having 10% or more canopy cover per acre are classified as forestlands or woodlands. These lands are classified as either:

Commercial Forestland

Forestland (of all species of trees) which is producing or is capable of producing 20 cubic feet per acre per year.

Wood and Noncommercial Forestlands

Land which is not capable of yielding at least 20 cubic feet of wood per acre, per year of sawtimber tree species, or land which is capable of producing only nonsawtimber tree species.

FOREST MANAGEMENT PLAN

A timber management plan for the commercial forestland was prepared for the planning area in 1981. This plan provides information on the forest resources. The timber sale program EA was approved in 1983. It provides information on site-specific management activities within the planning area.

SILVICULTURAL PRACTICES

Silvicultural practices are the site-specific, on-the-ground activities used to cultivate the growing of trees. The major silvicultural practices used in the planning area are described in the following section.

Regeneration

Regeneration is the process of reforestation of a site. There are two types of regeneration. The natural method is when the site is reforested from seeds left on the site and seeds deposited from the remaining trees. Ponderosa pine in the Black Hills lends itself easily to this method when there is a good seedbed, good seed crop, and cooperating weather. This is the preferred and most extensive method used for reforestation of ponderosa pine in the Black Hills. The artificial method is when seeds or tree seedlings are planted by humans. This method of regeneration may be used when a fire has destroyed all seed sources on the site.

Stand Development and Silvicultural Treatments

Stand development refers to the life of a stand from establishment until harvest or the death of the stand. Depending on the management objective for that stand the silvicultural treatments that occur during the life of the stand may improve the stands growth potential, help reduce a fire hazard, improve forage production, and reduce insect or disease outbreaks. These objectives may be accomplished with a single or series of treatments which may include precommercial thinning, commercial thinning, and some form of a shelterwood cut. Precommercial thinning (PCT) occurs in a young stand that is overstocked with unmerchantable sawtimber. This cut removes unpressed and damaged trees giving the remaining healthier trees a better chance to survive. Spacing guidelines used for ponderosa pine in the Black Hills are as follows:

one-inch trees are spaced at 600 per acre;

two- to three-inch trees are spaced at 400 per acre; and,

five-inch trees are spaced at 300 per acre.

Precommercial thinning is a treatment method that the BLM contracts out.

Commercial thinning is a treatment where a commercial sawtimber size has been reached in the stand. This treatment removes slower growing, low, and damaged trees from the stand leaving the final crop trees. The next treatment that occurs is the first cut in a series of harvest or shelterwood cuts. The first shelterwood or preparatory cut (individual cut tree selection) removes 30% to 40% of basal area. Trees harvested are the mature older and low vigor trees retaining the best crown and high vigor trees which show past evidence of good cone production. These trees provide the seed and shelter for the next generation of trees on the site. The final harvest will remove the remaining original stand. This cut cannot be made until the new stand of reproduction has been established, normally 20 years later.

The process in stand development from seed germination to harvest takes about 120 years.

A sanitation or salvage harvest is an unplanned harvest to remove dead or dying trees. This harvest usually occurs after some form of natural event such as fire, insect and disease outbreak, or blowdown from winds.

SLASH DISPOSAL

Slash is the part of the tree which cannot be used for lumber products. Slash includes tops, limbs, and other unusable portions of the trees left in the area after harvesting. Products such as fuelwood, post and poles, and other wood products may be salvaged from logging slash. The remaining or unusable slash is treated in several methods.

Lop and Scatter

Lop and scatter is where the top and large branches of the trees are cut to be within a predetermined height from the ground. This method helps to reduce a fire hazard, speeds up the decomposition of the slash, and reduces effects on the visual resources.

Pile and Burn

As a whole tree mechanical harvester becomes more widely used, more piles are being created at the landing sites. With this method of slash treatment the whole tree is yarded to a central location where it is delimbed, and the log is cut into lengths. The slash is piled and burned at a later time.

ALLOWABLE HARVEST

The planning area's allowable harvest level was calculated from data collected in an extensive forest inventory completed in 1973 and intensive forest inventory completed in 1979. This inventory data was evaluated, and the allowable harvest level was calculated. The yield for the 17,147 acres available for management was calculated to be 673 thousand board feet annually. A decision record and finding of no significant impact for the timber sale EA (USDI, BLM 1983a) set the harvest at 500 mbf annually.

Data from stand-based forest inventory for the former Casper District including Buffalo, Platte, and Newcastle resource areas was entered in 1987 into the U.S. Forest Service's FORRLAN planning model. Three alternative harvest schedules or solutions were calculated using a variety of management constraints. All three alternatives were modeled over a 200-year planning horizon. For each alternative a long-term sustained yield capacity for the district was calculated and a decadal harvest for each resource area was calculated.

APPENDIX H

A DETAILED DISCUSSION OF OIL AND GAS ACTIVITIES AND PROCESSES IN THE NEWCASTLE PLANNING AREA

INTRODUCTION

This appendix contains a detailed discussion of the activity caused by the presence, or anticipated presence, of oil and gas resources. Leasing, seismic exploration, drilling operations, and production operations are each discussed separately. Oil and gas activity is almost entirely the result of demands from the oil and gas industry. Those demands are based on commodity prices, advances in technology, and interest in oil and gas plays.

LEASING

The Mineral Leasing Act of 1920 (as amended) provides that all public lands be open to oil and gas leasing unless a decision of the authorized officer has been issued to close the area. Through the BLM's land use planning system the availability of public land for leasing is analyzed, and conflicts between oil and gas development and other resources are identified and hopefully resolved.

Process

Leases on federal oil and gas are offered by the Wyoming state BLM office (WSO) in Cheyenne. Acreage may be nominated for lease by interested parties. Acreage is offered first in a competitive lease sale then noncompetitively over the counter.

Acreage to be offered for lease is proportioned into groups called parcels. Legal descriptions of these parcels are sent to the Newcastle Field Office and other surface management agencies for review and application of lease stipulations that will mitigate the effect of oil and gas operations on other resources. Stipulations on split estate acreage are applied by the staff in Newcastle. The lease stipulations used, BLM guidance, and how the stipulations are applied in the Newcastle area are given in appendix E. Map H-1 shows the areas currently open to development under standard terms and conditions, areas currently open with minor constraints, areas currently open with major constraints, and areas closed to leasing.

After the lease stipulations are applied the parcel descriptions are returned to the WSO. Oil and gas leases covering the area listed in the parcel descriptions are offered for sale competitively via oral bid. The minimum bid is $2.00 per acre. Oil and gas leasing is a discretionary act by the Secretary of the Interior. A minimum bid does not compel the BLM to lease any of the acreage offered if there is sufficient justification not to issue a lease. The Federal Onshore Oil and Gas Leasing Reform Act of 1987 requires that a competitive sale be held four times a year. Since June 1988 competitive sales have been held bimonthly in Wyoming (except for April 1996 which was canceled because of the partial federal government shutdown). Leases issued via the competitive sale have a ten-year term and one-eighth royalty. Yearly rentals are $1.50 per acre for the first five years and $2.00 per acre thereafter.

Acreage in lease offers that do not receive a minimum bid is available noncompetitively for two years starting the day after the competitive sale. A substantial amount of acreage that did not get a minimum bid is leased noncompetitively over the counter the day after the sale. Applications for noncompetitive oil and gas leases are processed in the WSO. If two or more applications are received the same day for the same acreage a drawing is held. Leases offered noncompetitively have a 10-year term and one-eighth royalty. Yearly rentals for noncompetitive leases are the same as for competitive leases.

Past and Current Activity

There are 2.12 million acres of federal oil and gas ownership in the Newcastle planning area. This acreage is 46% of the total planning area and is interspersed with nonfederal oil and gas ownership. In the Newcastle area there are .29 million acres of BLM-administered surface; other federal agencies administer .42 million surface acres (figure 3-3 in chapter 3). In March 1994, there were 1,743 oil and gas leases covering 0.69 million acres in effect in the Newcastle planning area. Of the leases in effect, 658 were productive (0.19 million acres) and 1,085 were not productive (0.50 million acres). Table H-1 shows these figures for 1989, 1990, and 1997. Note there is an overall decrease in leases and acreage but the decrease in held-by-production (HBP) leases and acreage is relatively less than for nonHBP acreage.

The acreage offered in the Newcastle area between the February 1989 and February 1997 lease sales varied considerably (figure 3-4 in chapter 3). The amount of acreage sold in these lease sales also varied, but in most cases it was considerably less than 50% of

TABLE H-1
FEDERAL LEASES AND ACREAGE FOR SPECIFIC YEARS

HBP Date	HBP Leases	NonHBP Acreage	NonHBP Leases	Total Acreage	Total Leases	Acreage
November 1989	707	219,379	2,863	1,253,001	3,570	1,472,380
November 1990	702	212,609	2,876	1,306,543	3,578	1,519,152
March 1997	658	188,280	1,085	497,537	1,743	685,817

what was offered (figures 3-4 and H-1). The average successful bids in these sales varied from about $2 to $25 per acre. Average successful bids generally declined until 1995 but have increased since then (figure H-2). Likewise the total bonus dollars bid varied from about $2,000 to $285,000. Total bonuses tended downward but appear to trend upward since 1995 (figure 3-5 in chapter 3). From February 1989 through February 1997, the average sale offered 29,000 acres in the planning area, of which 8,000 acres were sold, for a total bonus of $74,000. About half of the bonus money received by the BLM is returned to the state of Wyoming.

SEISMIC EXPLORATION

Seismic exploration is a process where energy is transmitted into the subsurface usually by explosives or low frequency vibrations. The reflected energy waves are recorded and electronically processed. This process usually involves the operation of small- and medium-sized trucks on the surface and drilling shallow (to about 200 feet) shot holes. After the seismic data are collected and further processed, a cross-section of the earth's geologic layers is produced. Seismic reflection surveys help locate and determine the extent of oil and gas reservoirs.

Process

Before a seismic survey is conducted on BLM-administered surface a notice of intent (NOI) which gives the location and type of activity, and the results of an on-the-ground cultural inventory, is filed in the Newcastle Field Office. The BLM does an in-office study to determine if any threatened or endangered species are affected. The BLM notifies the seismic operator when all the criteria of the NOI are met.

If a seismic survey is conducted on behalf of an oil and gas operator or lessee on lease, a lease bond of at least $10,000, a statewide bond of at least $25,000, or a nationwide bond of at least $150,000 is required. The field office manager may and does increase the bond amount if the minimum amount is inadequate. The BLM also determines if the seismic survey will adhere to lease stipulations and may specify how shot holes are to be plugged.

If a seismic contractor is not conducting a survey on behalf of a lessee or operator and desires to cross BLM-administered surface, a $5,000 bond per NOI, a $25,000 statewide bond, or a $50,000 nationwide bond is required. If bond amounts are inadequate they may be increased by the field office manager.

If a seismic contractor is not conducting a survey on behalf of a lessee or operator over split estate land (federal oil and gas) it is not necessary to notify the BLM.

After the seismic survey is complete a notice of completion is required. The BLM then has 30 days to inspect the survey site and determine if shot holes are adequately plugged. If reclamation of the survey site is adequate the BLM approves the notice of completion.

On November 15, 1990 the NOI process was replaced by the Application to Conduct Oil and Gas Geophysical Exploration. As with the NOI process it is the BLM's objective to promote the development and utilization of oil and gas resources while assuring adequate protection of other resource values. The district manager holds and administers the individual geophysical bonds posted within the district. The field office manager is responsible for processing each application and ensuring that public resource values are protected.

A programmatic agreement (PA) for managing cultural resources in response to geophysical actions has been signed by the BLM, the State Historic Preservation Office, and the Advisory Council on Historic Preservation. The PA provides for approval of NOIs before State Historic Preservation Office (SHPO) comments are received if cultural resources can be avoided. This is a major time-saving measure which represents a departure from normal regulatory procedure. Additionally, the BLM will not be responsible for cultural resources on private land unless a BLM-authorized geophysical project may result in an effect on private surface immediately adjacent to federal surface or between tracts of federal surface.

Past and Current Activity

From 1987 through 1996 there were 47 NOIs in the Newcastle planning area. Most seismic exploration was in extreme western Crook County and northwestern Weston County. The BLM received several NOIs covering scattered townships in northern Niobrara and extreme southeastern Weston counties. Almost all seismic surveys in the past five years have been 3-D surveys. Figure H-3 shows the number of NOIs filed from 1987 through 1996.

OIL AND GAS DRILLING OPERATIONS

Once a potential hydrocarbon reservoir (prospect) has been located and the leases acquired, the next step is drilling one or more wells. This is often the single most expensive step in developing an oil and gas reservoir. If oil is discovered, wells are often drilled over several years as more is learned about the reservoir and additional wells are needed to maximize recovery or replace unusable wells. Before drilling operations can begin on federal minerals an application for permit to drill (APD) must be approved by the field office manager.

Once the location is determined the well is staked (surveyed). The BLM is notified either by a notice of staking or an APD. Before any surface-disturbing activity can occur the APD must be approved by the field office manager. A site-specific environmental assessment (EA) is done for each APD. BLM and operator representatives conduct an on-site inspection of the proposed drilling location before an APD is approved. APDs are subject to site-specific conditions of approval. These site-specific conditions of approval, which may be more restrictive than the lease stipulations, mitigate the impact of oil and gas operations on other resource values even though these values were not known at the time the lease was issued. In specific instances as part of the approved APD some lease stipulations may be modified by the field office manager if there is no impact to other resource values.

If oil and gas operations are expected to have a significant adverse impact on other resource values and these impacts cannot be mitigated by the site specific conditions of approval then an EIS must be prepared.

The field office manager may restrict oil and gas drilling operations in specific parts of federal leases during some times of the year and in some locations in order to protect other resource values such crucial deer winter range or stream channels. Generally these areas and times are identified in the lease stipulations or on the approved APD.

While federal wells are being drilled BLM personnel are authorized to inspect the operations to ensure that federal regulations, guidelines, and the terms of the approved APD are being complied with. All high-priority federal wells, such as wells in high hydrogen sulfide gas or environmentally sensitive areas, are inspected at some time during drilling operations.

Past and Current Activity

Figure H-4 shows the total number and federal number of APDs approved from 1977 through 1996 for the planning area. All three counties have significant numbers of APDs each year, but those in Niobrara County are noticeably fewer. Figure H-5 shows the number of approved APDs plotted against average oil price from 1977 through 1995. During this period, APDs for the planning area ranged between 4% and 29% of all APDs approved in Wyoming.

An average of 48 federal APDs per year in the Newcastle planning area were approved by the field office manager from calendar years 1987 through 1996. Federal APDs averaged 57% of all APDs in the NRA during this time. Figure H-6 shows the number of wells drilled in the planning area. Note that drilling activity is at a 50-year low.

Between 1980 and 1989, several oil and gas fields were discovered in the Newcastle planning area. Figure H-7 shows the number of discoveries each year since 1977. The annual discovery rate in the area has decreased substantially since 1989 (figure H-7). Some wells, although discoveries, are uneconomic, and little or no additional drilling occurs.

Field size distributions for fields discovered during five-year increments since 1945 are shown in figure H-8. With the exception of one field discovered in the 1965-1969 interval, field size has decreased steadily since 1955-1959, although the number of new field discoveries has increased (figure H-9). The large peak in the 1965-1969 interval (figure H-8) is due to the Finn-Shurley Field in Weston County which, although discovered in 1965, was developed mostly in the early 1980s. The largest new field discoveries since 1970, an average of the three largest, five largest, and all newly discovered fields is shown in figure H-8. Note that all trends are downward. Many new field discoveries ultimately have only one well and are uneconomic. Abandoned or shut-in fields with no productive wells were considered to have one well. Other fields were considered to have the number of wells listed.

From calendar years 1987 through 1996 an average of 36 federal wells per year were drilled in the planning area. Each federal well causes an estimated disturbance of 0.5 acre for the location and 0.6 acre for the access road. All of this area is reclaimed within two to three years after the well is plugged and abandoned. Total disturbed area due to federal wells is estimated to have averaged 39 acres per year from calendar years 1987 through 1996. During these years an average of 48 federal wells per year have been abandoned. These abandonments have resulted in reclamation of an estimated 52 acres per year. Figure H-10 shows the net change in federal wells from 1987 through 1996. The excess of federal wells plugged over federal wells drilled is due largely to temporarily abandoned wells being plugged and fewer federal wells being drilled.

OIL AND GAS PRODUCTION OPERATIONS

After an oil and gas reservoir has been drilled it is necessary to apply sound engineering principles to maximize reservoir recovery and economic return. Production operations occur over the life of the field until the last well is shut-in. Production operations include such things as maintenance and repair of pumps and surface equipment, measurement of produced oil and gas, transportation of oil and gas, and installation of secondary recovery facilities.

Process

Initially only the original reservoir energy is used to produce oil and gas. This is called primary recovery and allows about 10% to 25% of the original oil in place to be recovered. After the reservoir's energy begins to deplete due to withdrawals, secondary recovery may be initiated. Secondary recovery involves injecting water to increase or maintain reservoir pressure and allows about 25% to 40% of the original oil in place to be recovered. Many fields in the planning area are undergoing secondary recovery. Some fields are undergoing enhanced oil recovery (EOR). EOR may begin at any stage of reservoir development and involves injection of surfactants or other chemicals to increase oil recovery.

Oil and gas production operations are not subject to prior approval by the field office manager unless there is a possible loss of royalty, additional surface disturbance, recompletion in a different zone, or operations are nonroutine or unusual. Examples of activities requiring prior approval by the field office manager are gas venting or flaring and water disposal.

Production operations and facilities must meet federal requirements and are subject to BLM inspection and enforcement (I&E). High priority inspection items, such as leases producing over 12,000 barrels of oil per month or leases with a history of past major violations are inspected at least once every three years. Lower priority inspection items are inspected as time and resources allow. When violations are found the operator is notified and damages may be assessed.

Past and Current Activity

Oil and gas production for the Newcastle planning area is shown in figure H-11. All three counties have significant oil production. Oil production from the planning area has increased from about 4.5% (6.2 million barrels of oil) of the state's total in 1977 to about 7% (7.6 million barrels of oil) in 1985. Since 1985, the planning area has averaged 7% of the state's total oil production. In 1995, 2.2 million barrels of oil were produced in the area. Gas production is relatively minor compared to oil. There are no major gas fields in the planning area.

In 1978, 38% (2.3 million barrels of oil) of the oil produced in the planning area was from federal wells. After reaching a peak of 50% in 1990 federal wells now produce 47% (2.4 million barrels of oil) of the total oil in the area. Gas production from federal wells decreased from 78% (2.4 billion cubic feet of gas) in 1978 to 47% (1.8 billion cubic feet of gas) in 1995. Federal, fee, and state oil production are shown in figure H-12.

From calendar years 1978 through 1995 there were an average of 1,827 productive oil wells in the Newcastle planning area (figure H-13). Productive federal wells increased from about 500 in 1978 to about 900 in 1984. From 1978 to 1995 productive federal oil wells have been 41% to 44% of the total producing oil wells.

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Figure H-1

Oil and Gas Lease Sale Results

Percent of Acreage Leased Competitively

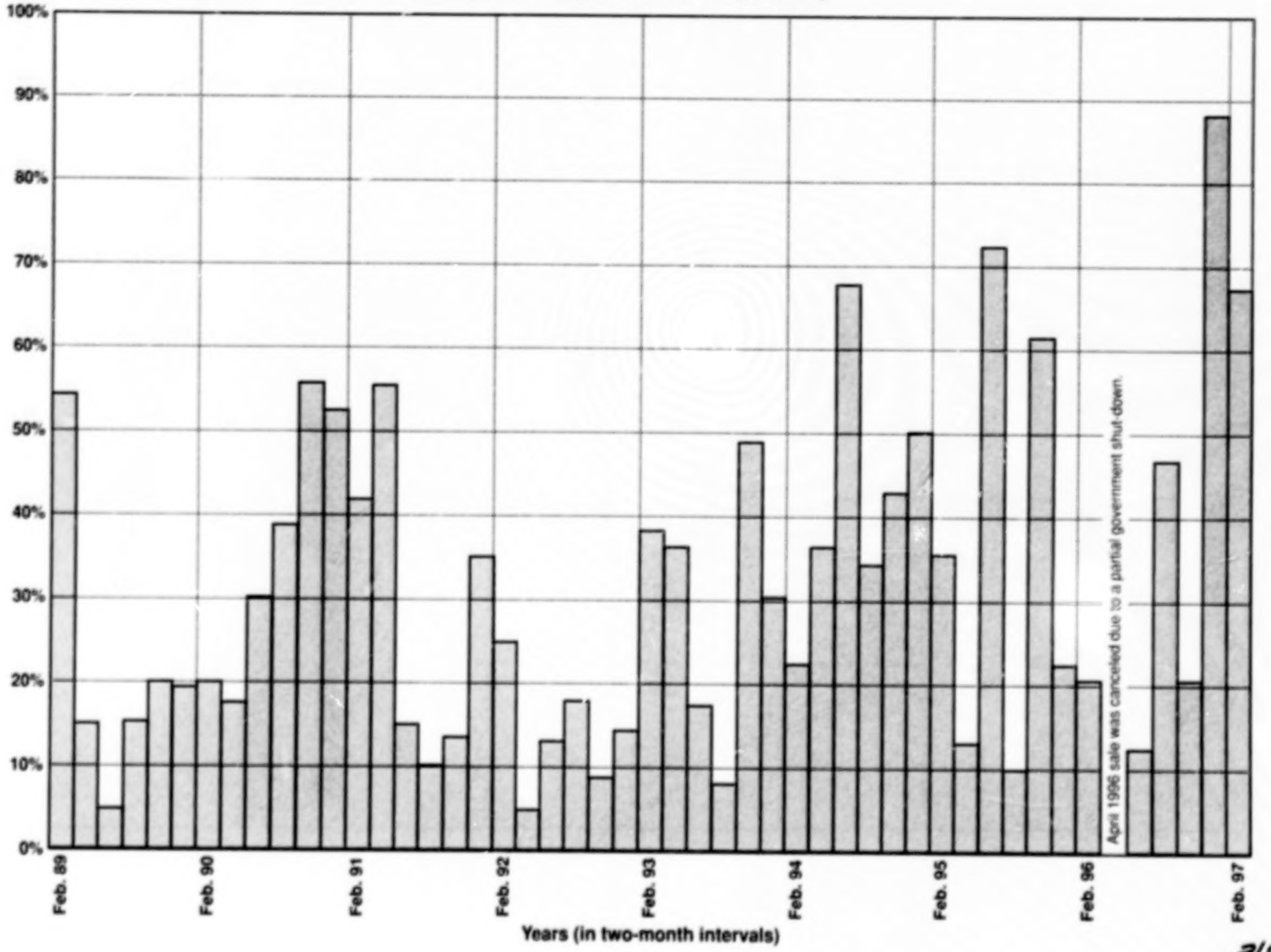


Figure H-2

Oil and Gas Lease Sale Results

Average High Bid

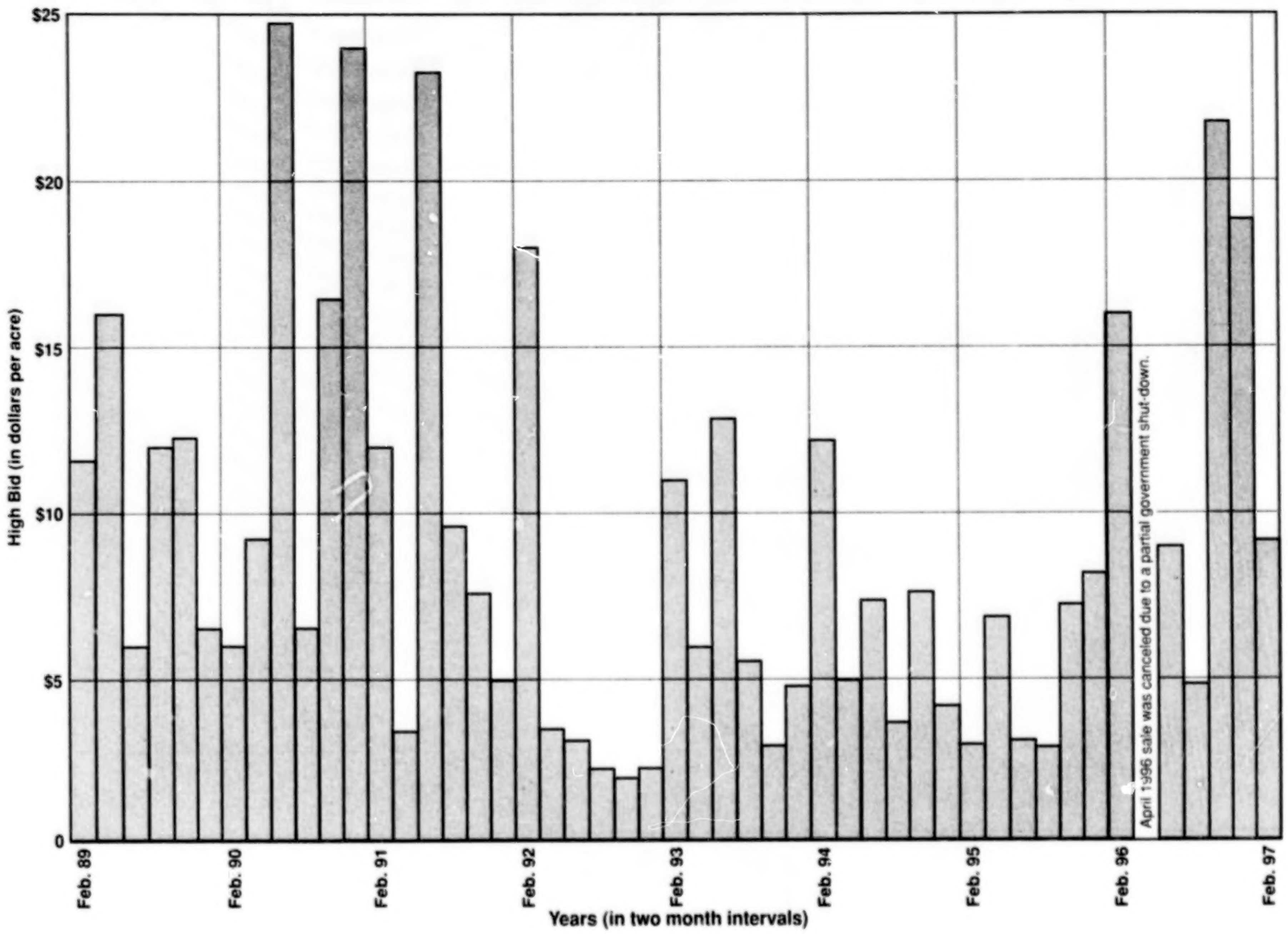


Figure H-3

Notices of Intent to Conduct Seismic Operations

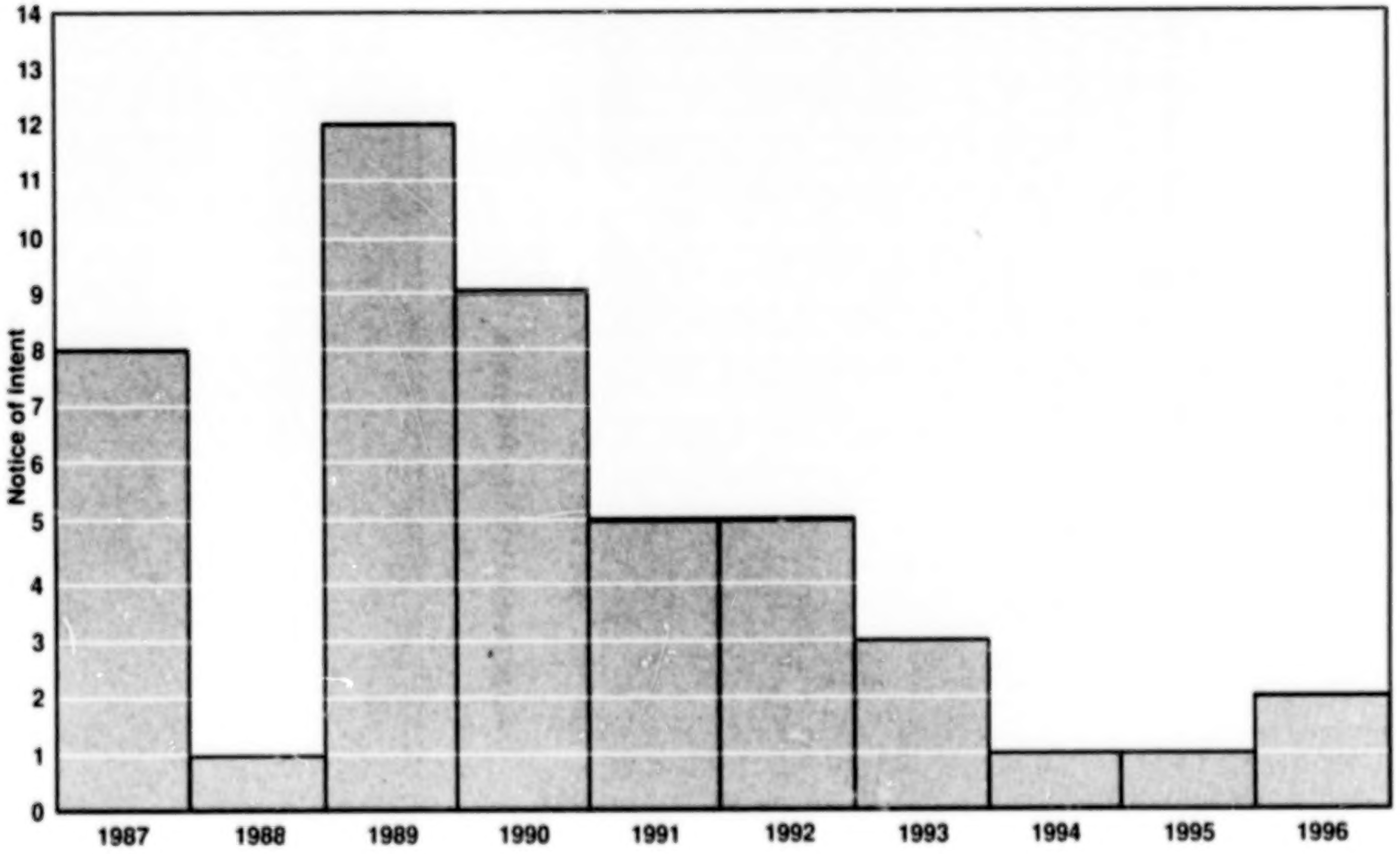
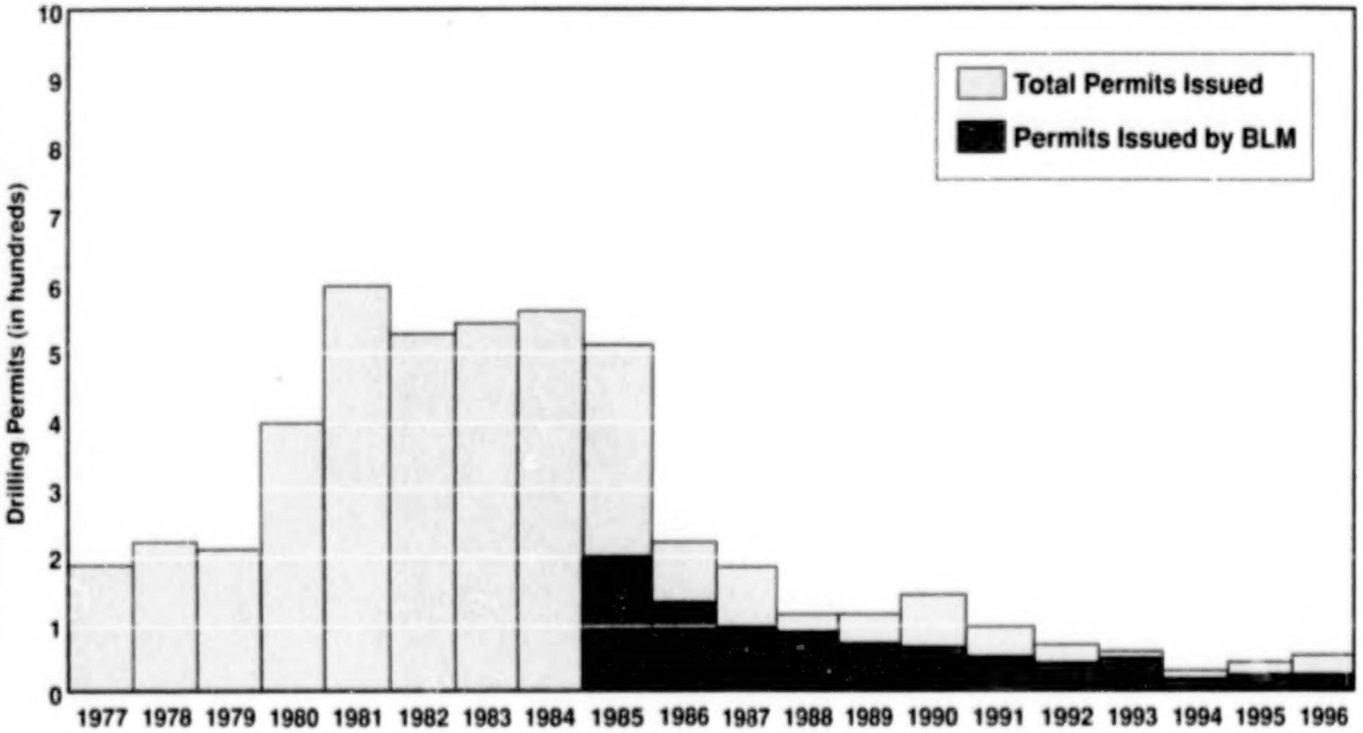
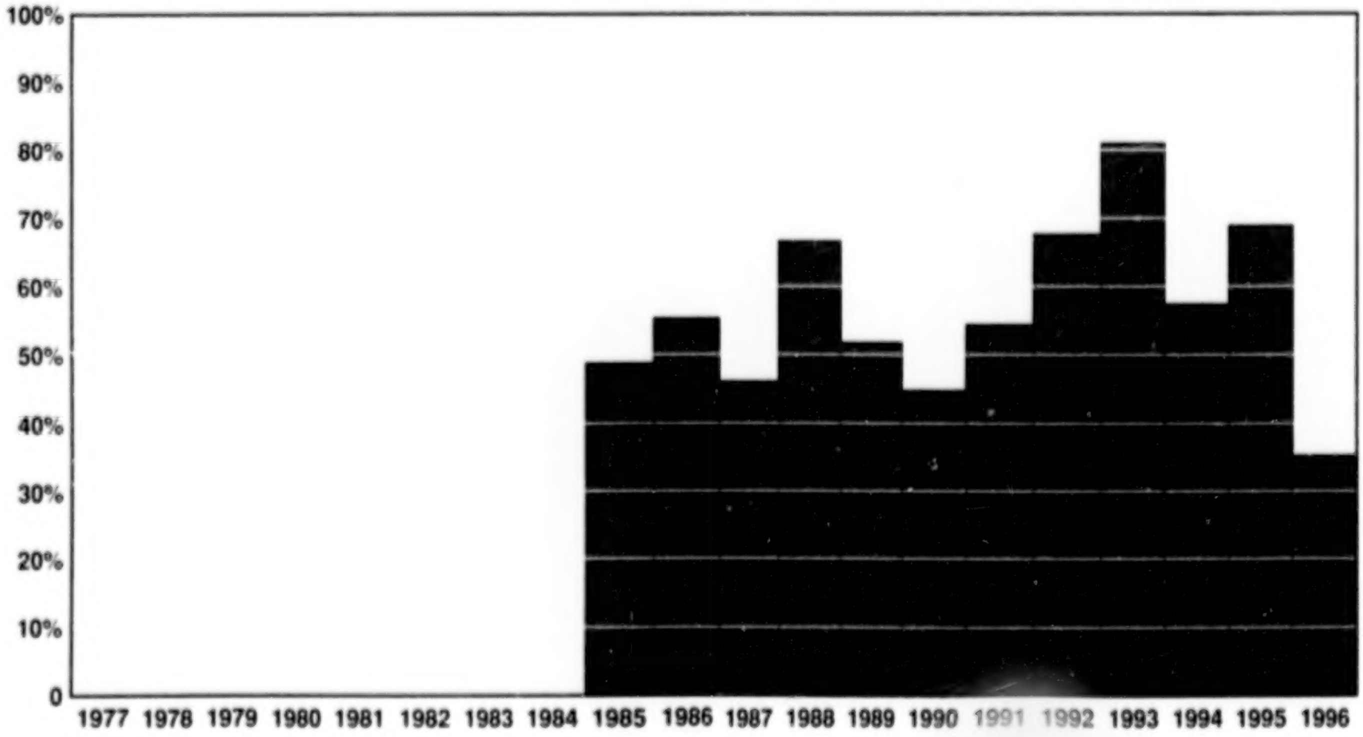


Figure H-4
Drilling Permits



Information from 1977 to 1984 unavailable

Approved Drilling Permits



Information from 1977 to 1984 unavailable

BLM Issued Permits as a Percent of the Total Permits Issued

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Figure H-5

Approved Applications Compared to Oil Price

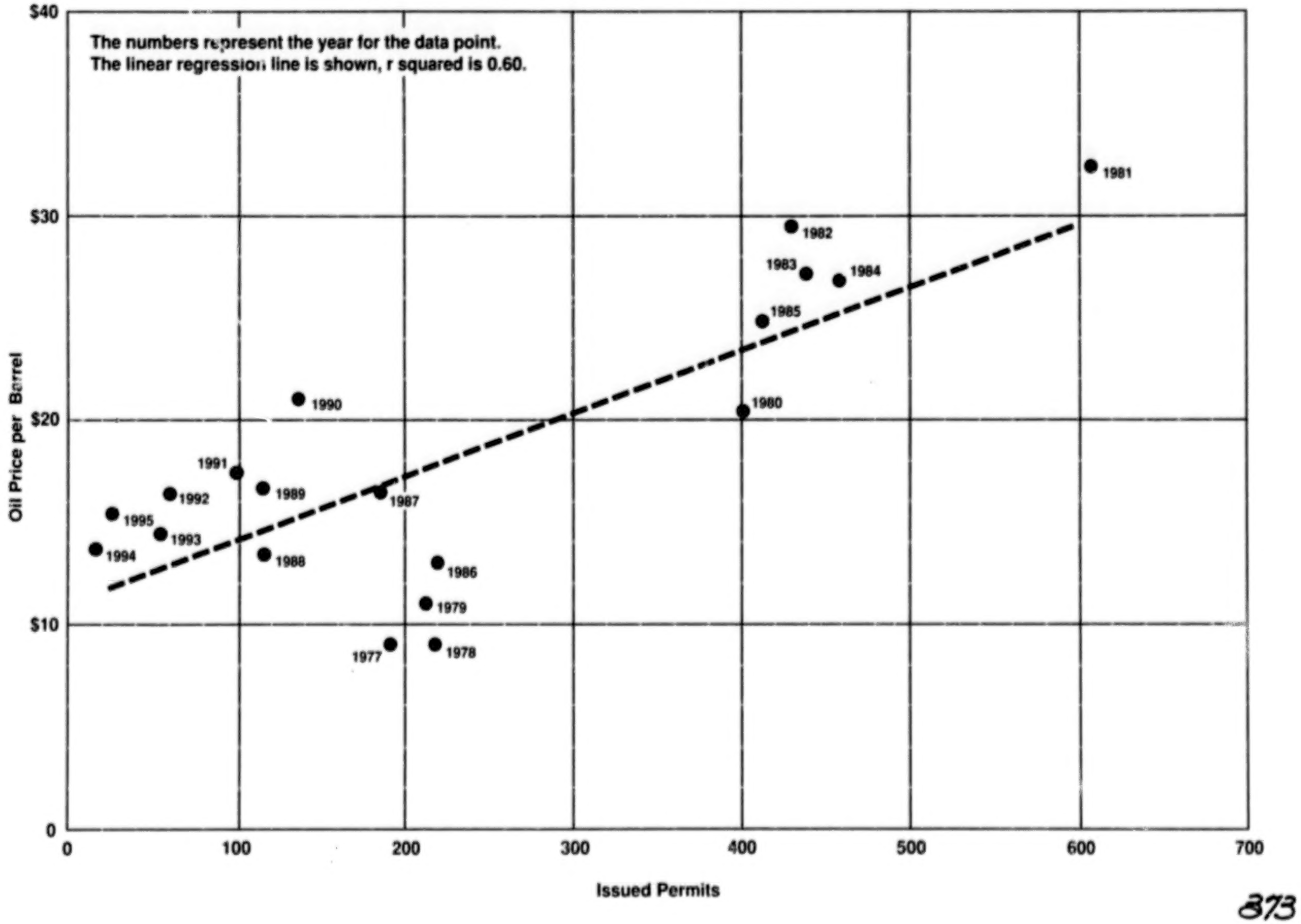

Figure H-6

Wells Drilled in Newcastle Field Area

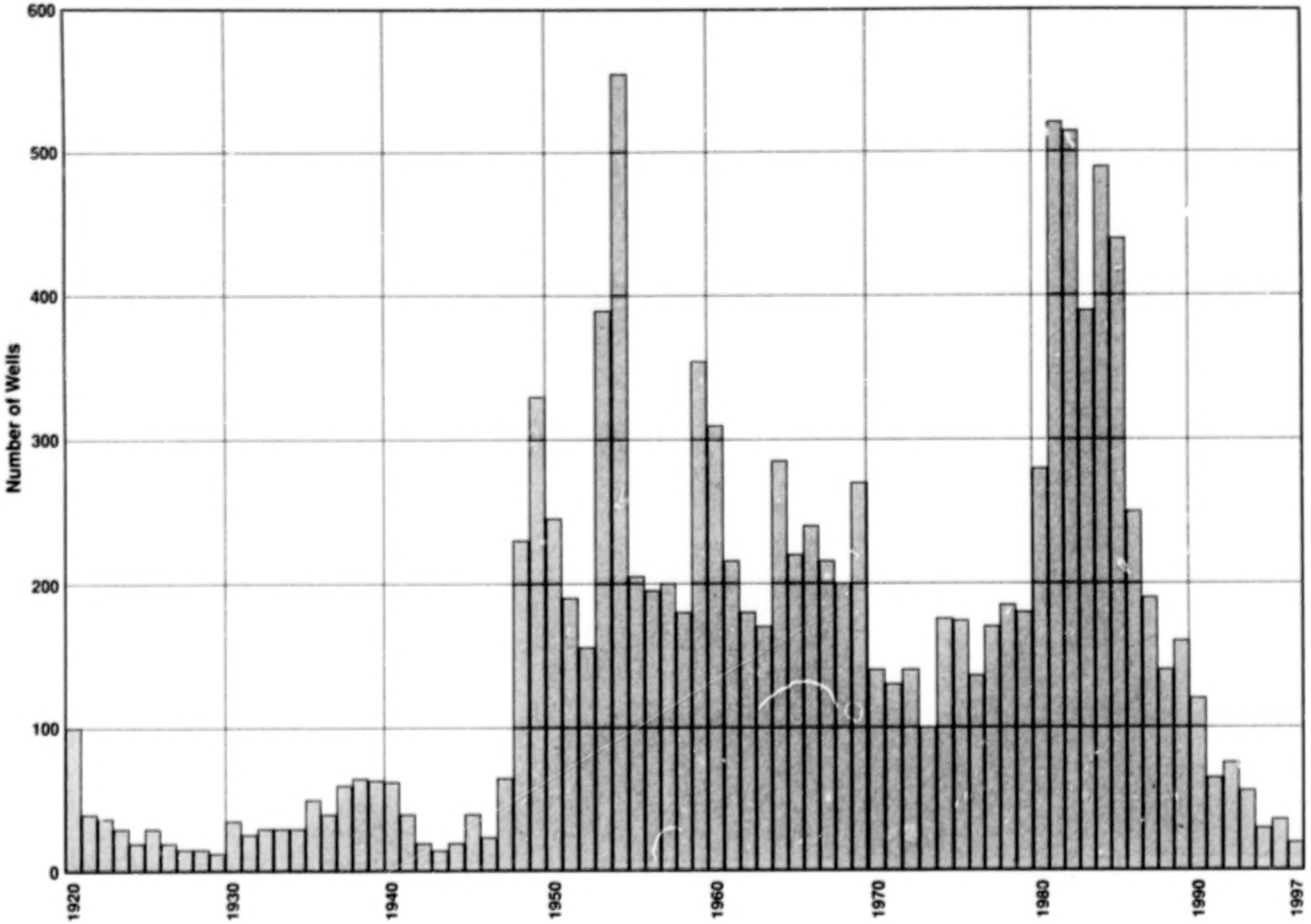

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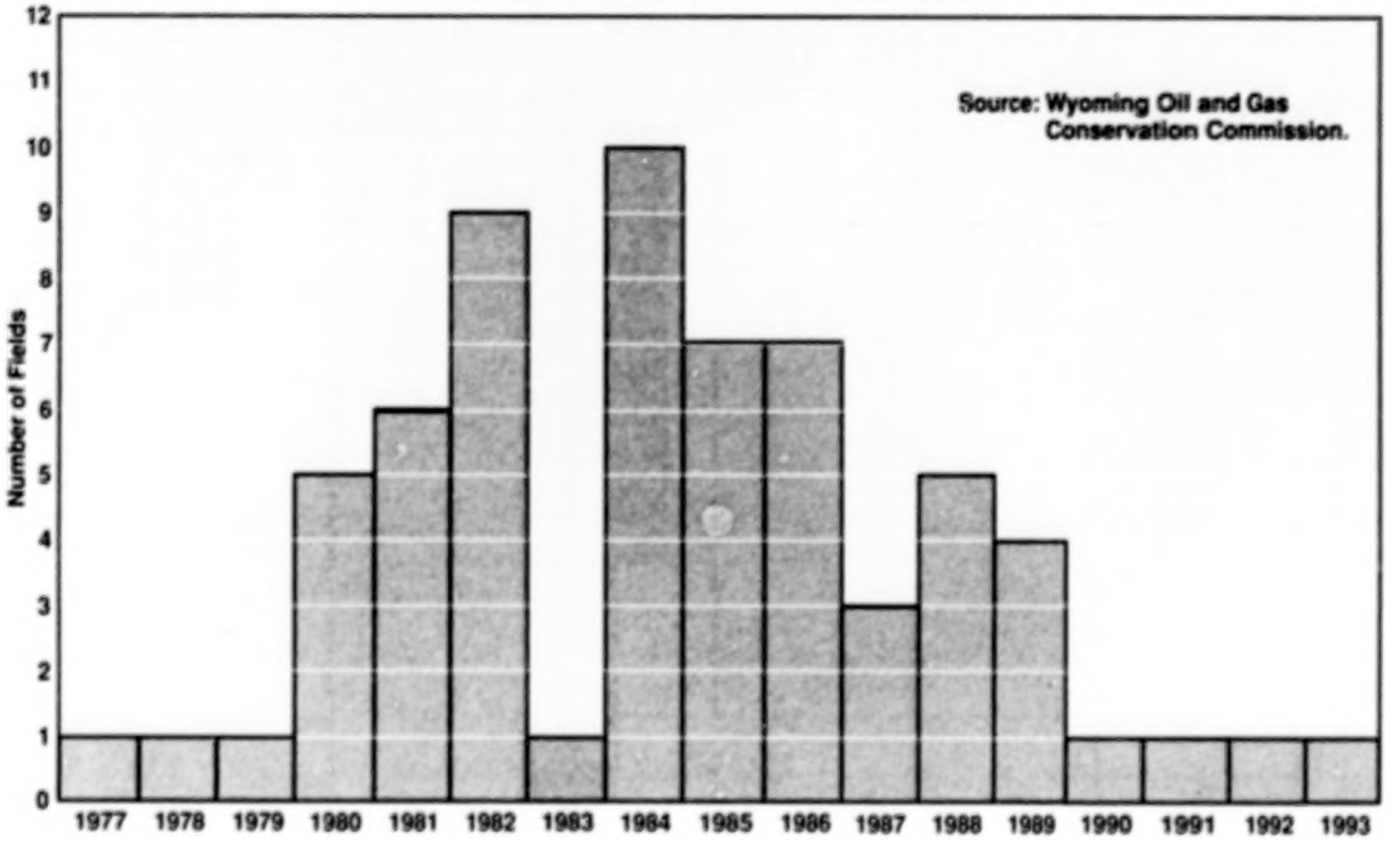
Figure H-7

Oil and Gas Field Discoveries

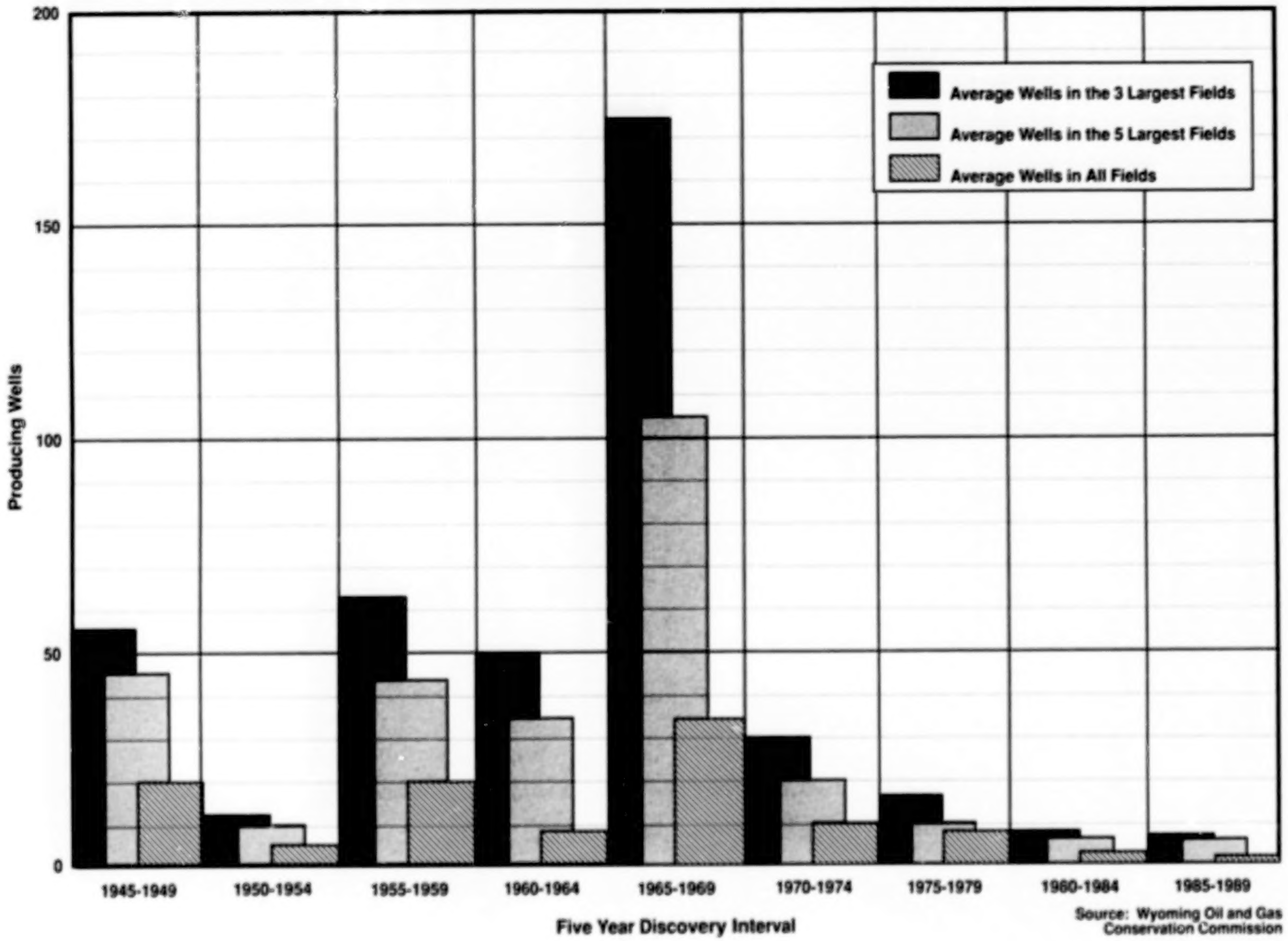


Source: Wyoming Oil and Gas Conservation Commission.

No oil and gas fields were discovered from 1994 through 1996.

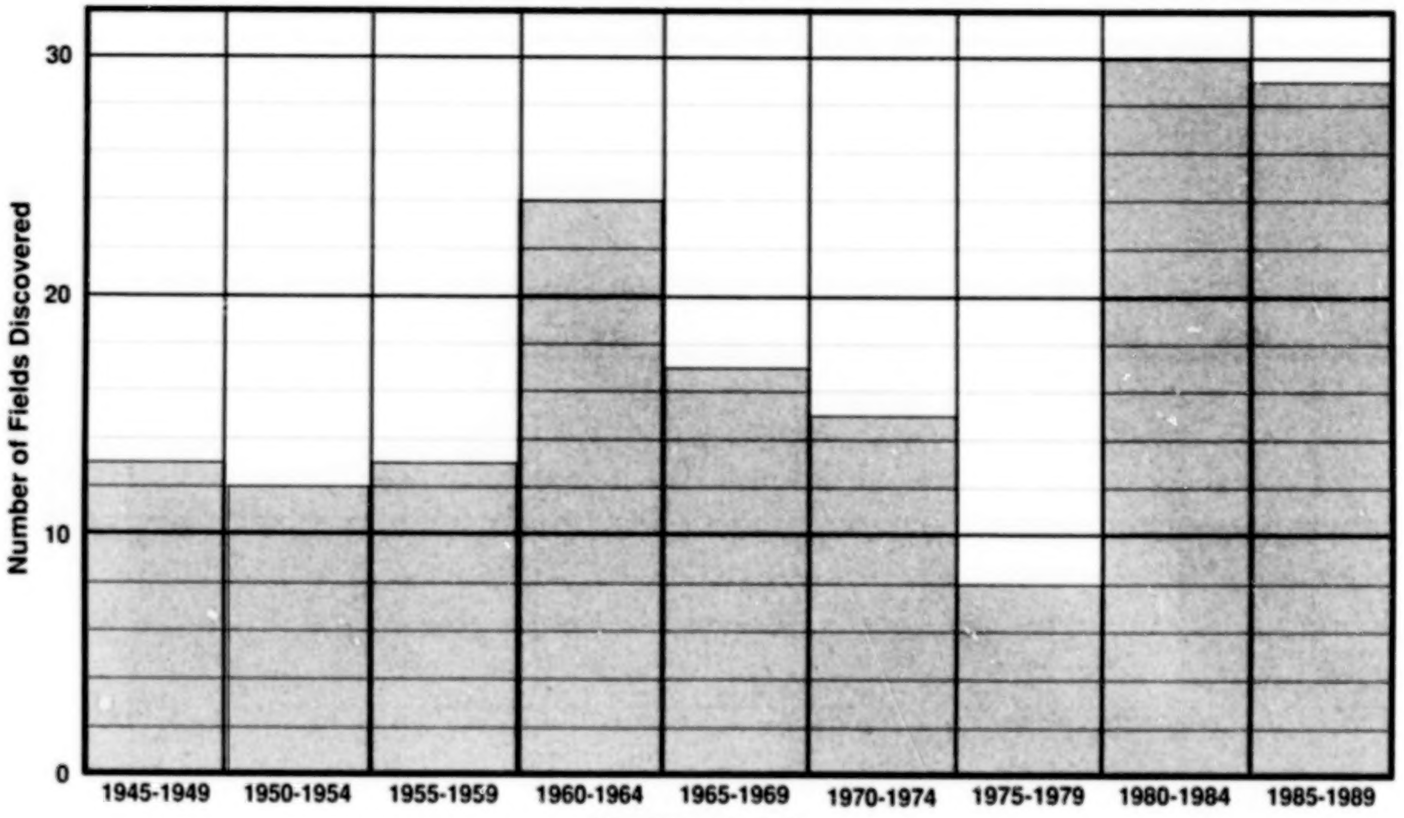
Figure H-8

Average Number of Producing Wells Per Field



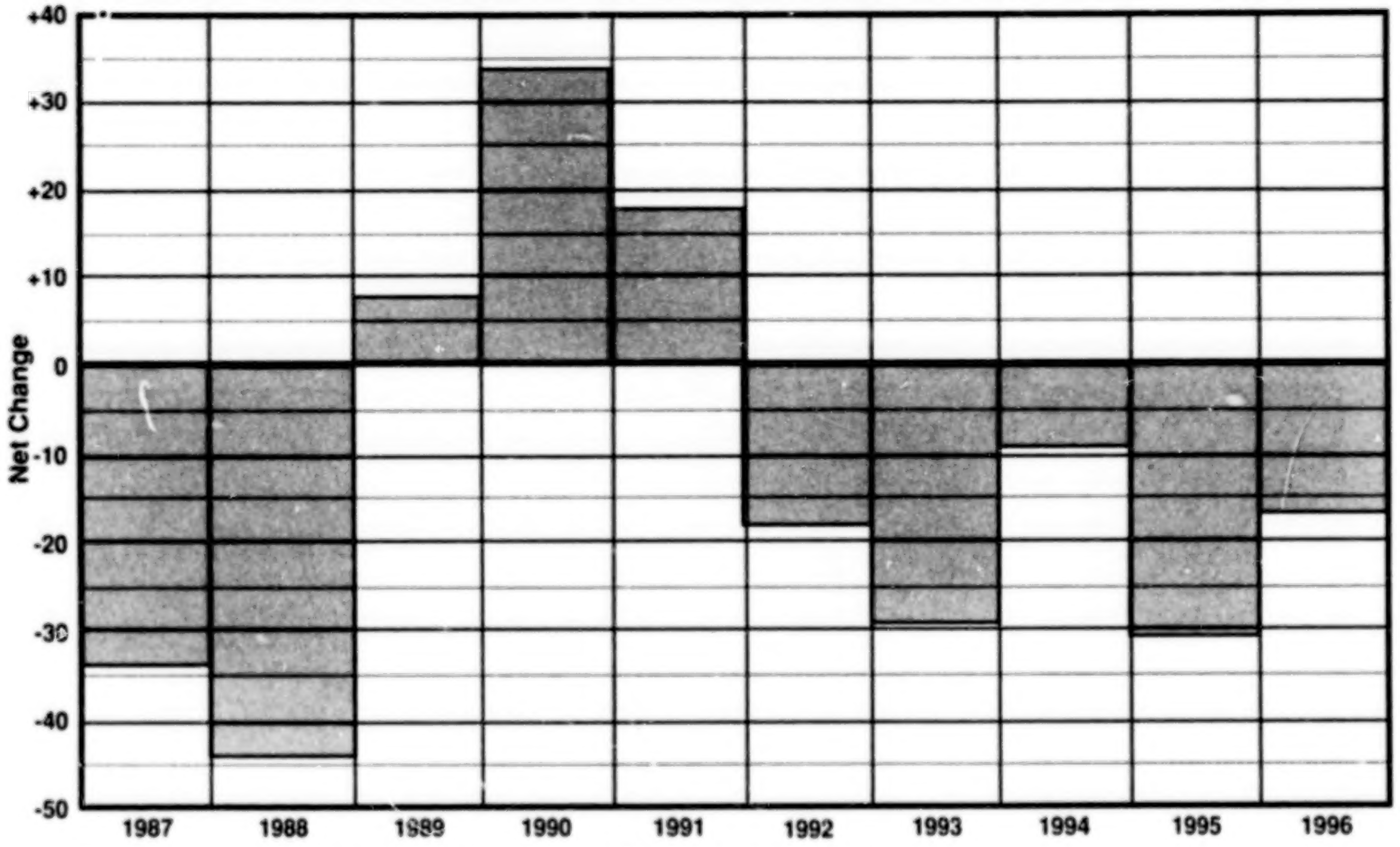
Source: Wyoming Oil and Gas Conservation Commission

Figure H-9
Oil and Gas Field Discoveries



Source: Wyoming Oil and Gas Conservation Commission, 1990 Statistics book.

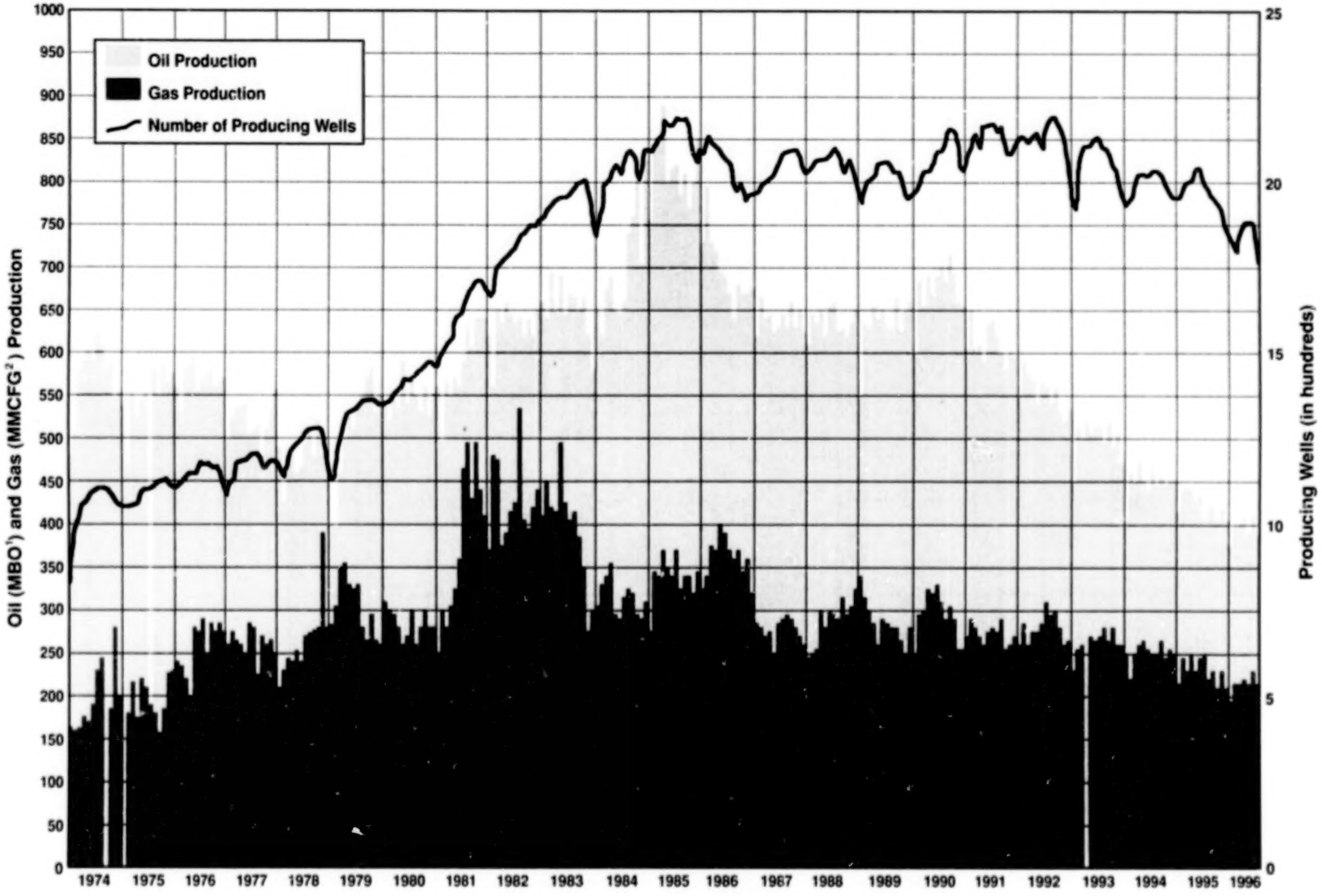
Figure H-10
Net Change in Federal Wells



From 1987 through 1996, 356 federal wells were drilled and 476 federal wells were abandoned.

Figure H-11

Monthly Oil and Gas Production and the Number of Producing Wells



[1] (MBO) Thousands of barrels of oil.
[2] (MMCFG) Millions of cubic feet of gas.

Source: Dwights Energy Data, Inc.

Figure H-12

Oil Production by Ownership

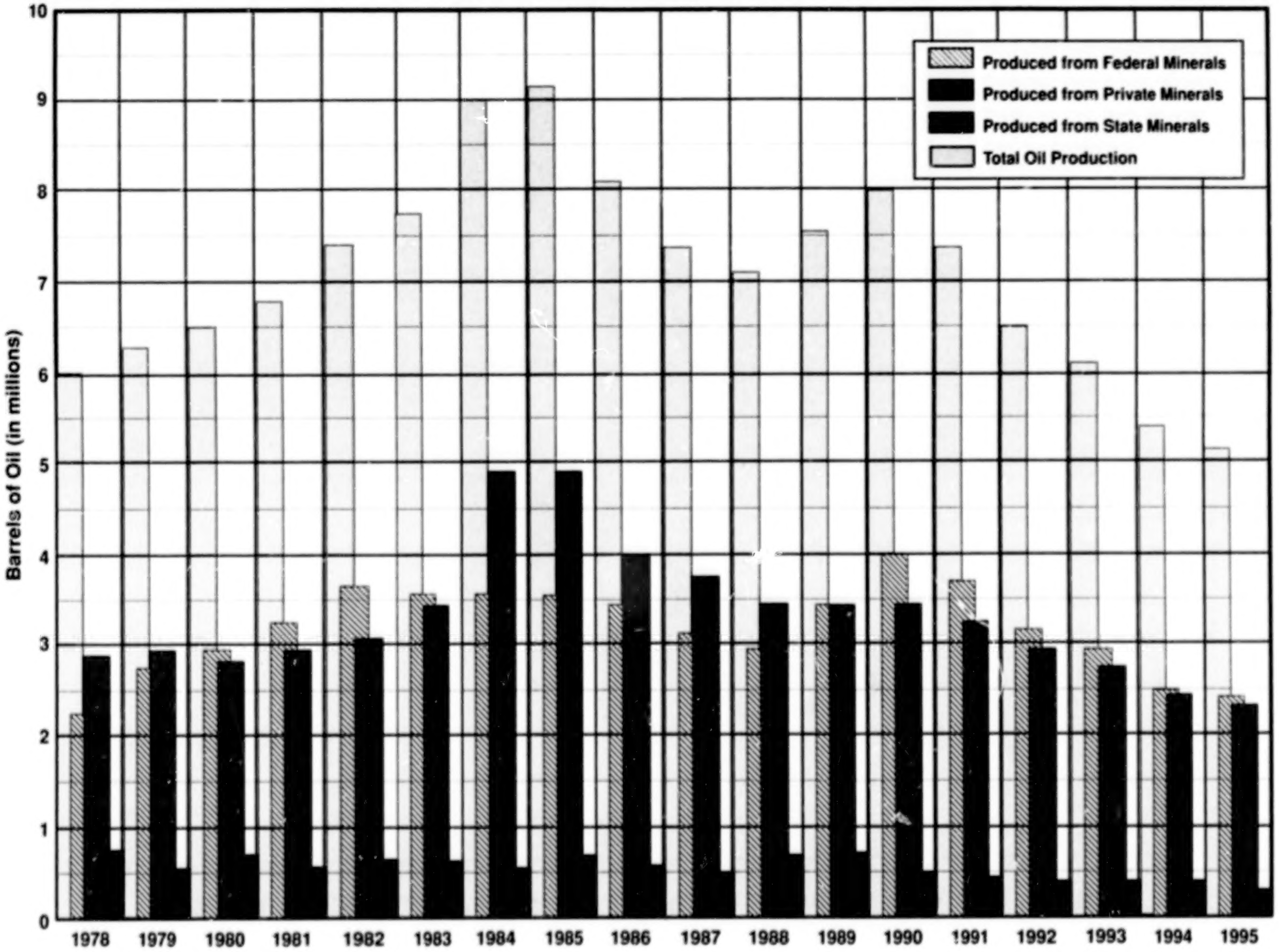
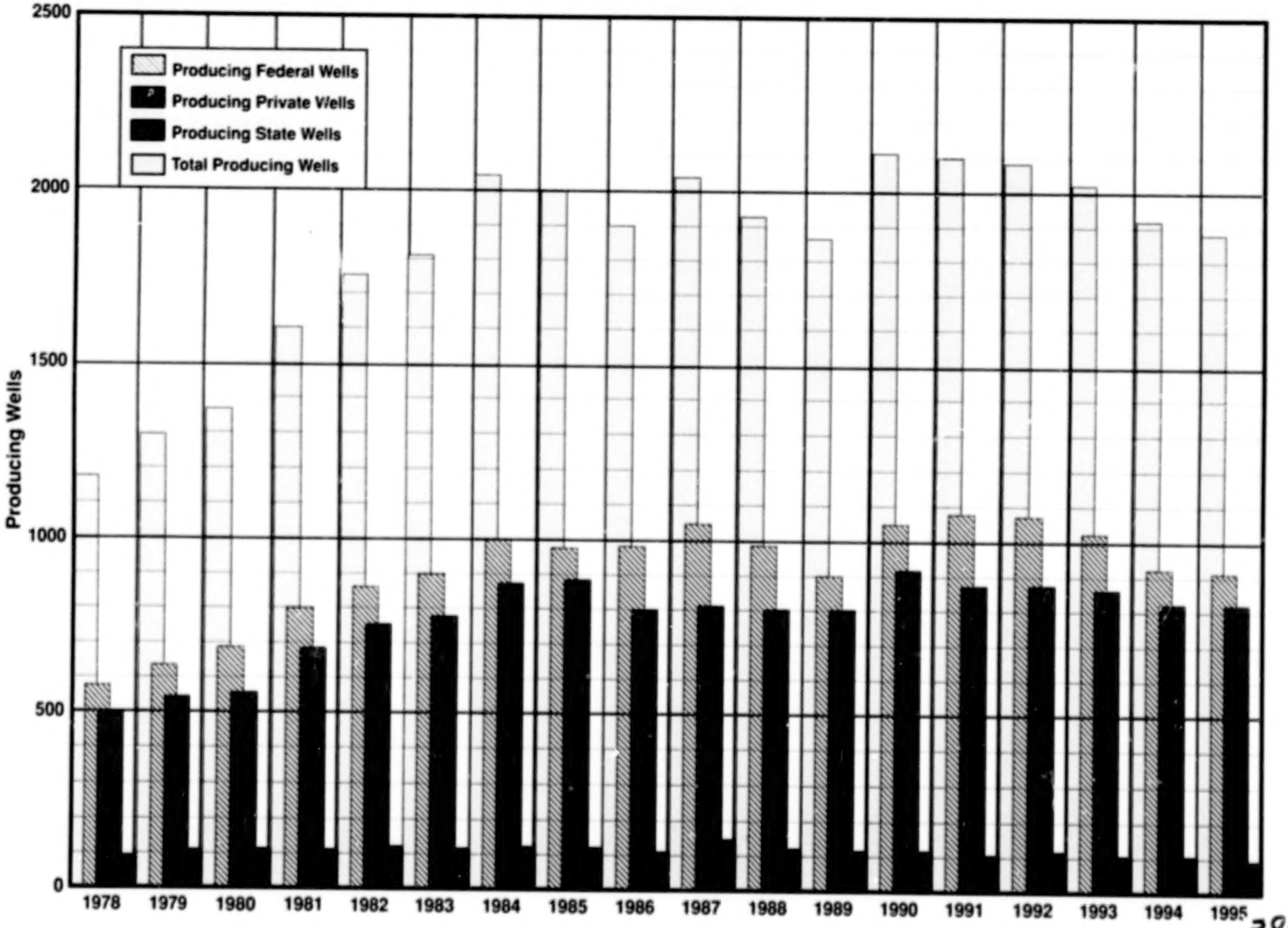


Figure H-13
Producing Oil Wells



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APPENDIX I

REASONABLY FORESEEABLE DEVELOPMENT SCENARIO FOR OIL AND GAS

This appendix presents a development scenario for oil and gas leasing and development activities in the Newcastle planning area. This scenario is an estimate of future activity and how much of this activity is on BLM-administered mineral acreage.

The oil and gas occurrence potential has been estimated for the area and is shown on map I-1. This map represents only occurrence potential of hydrocarbons and does not indicate development potential. Definitions of high, moderate, low, and no occurrence potential are given at the end of this appendix. Moderate to high occurrence potential areas in central and eastern Crook County probably contain several undiscovered heavy oil or tar deposits in the Minnelusa Formation. The deposits are from a few hundred feet or less to nearly 2,000 feet below the surface. Geologically, these deposits are probably similar to oil and gas reservoirs in western Crook County. So far, two deposits have been discovered (Burnt Hollow and Rocky Ford), but neither has produced a significant amount of oil.

Twelve major oil and gas plays have been identified and described by the U.S. Geological Survey (USGS 1990). These plays are summarized in table I-1. The numbers are mean value estimates of undiscovered economically recoverable conventional oil, gas, and natural gas liquids as of January 1, 1987. Most of the oil produced from fields within the planning area is from these plays. The percentages shown in table I-1 were estimated from the maps shown in USGS 1990. The reader is cautioned from estimating how much undiscovered oil and gas remains based on the information in table I-1. Estimates for fields with less than one million barrels of oil (MMBO) or six billion cubic feet of gas (BCFG) were not included. Due to geologic changes, uneven development, and differences in reservoir size, it cannot be assumed that if 20% of a play area is within the planning area that approximately 20% of the undiscovered reserves are also within the planning area.

Oil and gas activity is primarily based on three factors: crude oil prices and anticipated oil price changes; development of new plays or renewed interest in old plays; and, advances in and application of technology (especially secondary and enhanced oil recovery, and seismic).

These factors are difficult to predict with much certainty, but some generalizations are possible. The

TABLE I-1
SUMMARY OF OIL AND GAS PLAYS

	Undiscovered Reserves			Percent of Planning	Percent of Play in
Play	Fields	MMBO[a]	BCFG[b]	Area in Play	Planning Area
Dakota	21	158	158	45	20
Deep Frontier	6	37	99	5	10
Lakota	NA	NA	NA	45	20
Leo	60	110	60	45	50
Mesaverde and Lewis	10	66	91	1	1
Minnelusa	165	822	203	70	35
Mowry Shale	NA	NA	NA	10	10
Muddy	39	1333	1298	40	15
Sussex and Shannon	20	128	103	5	0 Sx, 5 Sh
Turner	NA	NA	NA	15	40
Basin Margin Anticline	5	25	21	10	10
Basin Margin Subthrust	NA	NA	NA	5	25

[a] Million barrels of oil; includes natural gas liquids.

[b] Billion cubic feet of gas.

SOURCE: USGS 1990.

estimates presented in this appendix are based on past trends and current information. What actually happens may be significantly different.

LEASING

Leasing is an early phase in oil and gas development and is often based on speculation. In the planning area it is anticipated that oil and gas leasing will continue at approximately the 1990 levels. It is estimated that 50,000 to 250,000 acres per year in the area will be put up for lease. In 1994 this will increase about 50 thousand acres. After that it is estimated about 75,000 to 250,000 acres will be put up for lease annually.

Although the amount will vary considerably from sale to sale, it is estimated that approximately 30% of the acreage put up for lease will be sold competitively. The variation will depend mostly on crude oil prices and play developments. Most of the acreage leased competitively will be in areas of moderate or greater development potential (map I-2 and appendix H). Much of the acreage not sold competitively will be leased over the counter within two years after the sale.

It is estimated that the total amount of acreage under lease will vary somewhat but average about 1.0 to 1.5 million acres; about 0.5 million acres will remain unleased. Most of the unleased acreage will be in areas of low development potential (map I-2).

SEISMIC

Between 1987 and 1992 a total of 41 NOIs (6.8 per year) were filed. It is anticipated that seismic activity will average about the same as it was between 1987 and 1992. A significant increase in seismic activity will depend mainly on new play developments. The activity will probably be concentrated in westernmost Crook County, northwestern Weston County, and northern Niobrara County. OIL AND GAS DRILLING OPERATIONS

Historically there is a correlation between the total number of approved drilling permits (fee, state, and federal) and oil price. Data from the last three years seems to indicate a lower level of drilling for a given oil price (figure H-5 in appendix H). The line shows linear regressions for 1977 through 1987 and 1988 through 1990 data. Whether or not the lower trend will prove to be valid remains to be seen, but it does appear that the trend established by the 1977 through 1987 data is no longer valid.

The annual number of approved drilling permits is expected to remain between 50 and 300 with a few exceptions. It is not considered likely that the number of approved permits will reach the level it was between 1980 and 1985 (figure H-5). It is anticipated that the number of permits will not vary directly with oil price until the price or anticipated price exceeds $25 per barrel. If a new and relatively widespread play develops in the planning area, the number of permits would increase, but the amount is impossible to predict.

Federal APDs have been 44% to 68% (averaged 54%) of the total approved permits from 1987 through 1992 (figure H-4 in appendix H); this is not expected to change significantly. With few exceptions the number of federal APDs is expected to be between 50 and 150 during the next ten years.

New field discoveries have averaged 4.1 per year from 1977 to 1991 according to WOGCC statistics. If this rate continues there should be several new discoveries involving federal minerals in the next 10 years. The number of new fields discovered is anticipated to average between two and six fields per year during the life of this plan. Field size distribution indicates that the average size of new field discoveries has declined steadily with one exception since 1959. The average size of new field discoveries is anticipated to be two to four producing wells, and the maximum size is not expected to exceed 15 producing wells.

Recently, there has been considerable interest in horizontal drilling to develop fractured reservoirs. Horizontal drilling is not expected to have a large impact in the area because only a relatively small part of the resource area appears to have the necessary geologic factors for fractured reservoirs.

OIL AND GAS PRODUCTION OPERATIONS

Although the total number of producing wells has increased steadily (figure I-1) the number of productive federal wells has decreased slightly (about 1%) since 1987. The total number of federal wells including shut-in, temporarily abandoned, and service wells has also declined slightly (figure I-2). It is anticipated that the number of productive federal wells will remain near 1,000 or decrease slightly over the life of this plan. The total number of federal wells (producing, shut-in, and service) is also expected to remain approximately constant or decrease slightly.

Oil production increased in both absolute and relative amounts from 1977 to 1985 (figure I-3), but it has decreased somewhat since then. If carbon dioxide becomes available at economic prices, several EOR projects will probably be initiated. These will most likely be concentrated in western Crook County and northwest Weston County. If this occurs, oil production would probably increase somewhat or at least decline more slowly. New discoveries will probably keep oil production from declining steeply from present levels and may result in some increases, but sharp increases in production are not expected.

Nonassociated gas production in the planning area, compared to oil production, is small. This is not expected to change without the development of a major gas play which is unlikely.

DEFINITIONS OF OIL AND GAS OCCURRENCE POTENTIAL

High

There is a demonstrated existence of petroleum source, reservoir quality strata, and traps. Areas of high potential have discovered oil occurrences or free oil recovery from well tests.

Moderate

There is direct or indirect geological evidence that petroleum source, reservoir quality strata, and trapping mechanisms are present. Discovered occurrences are not present, but there may be shows of oil in core or well tests.

Low

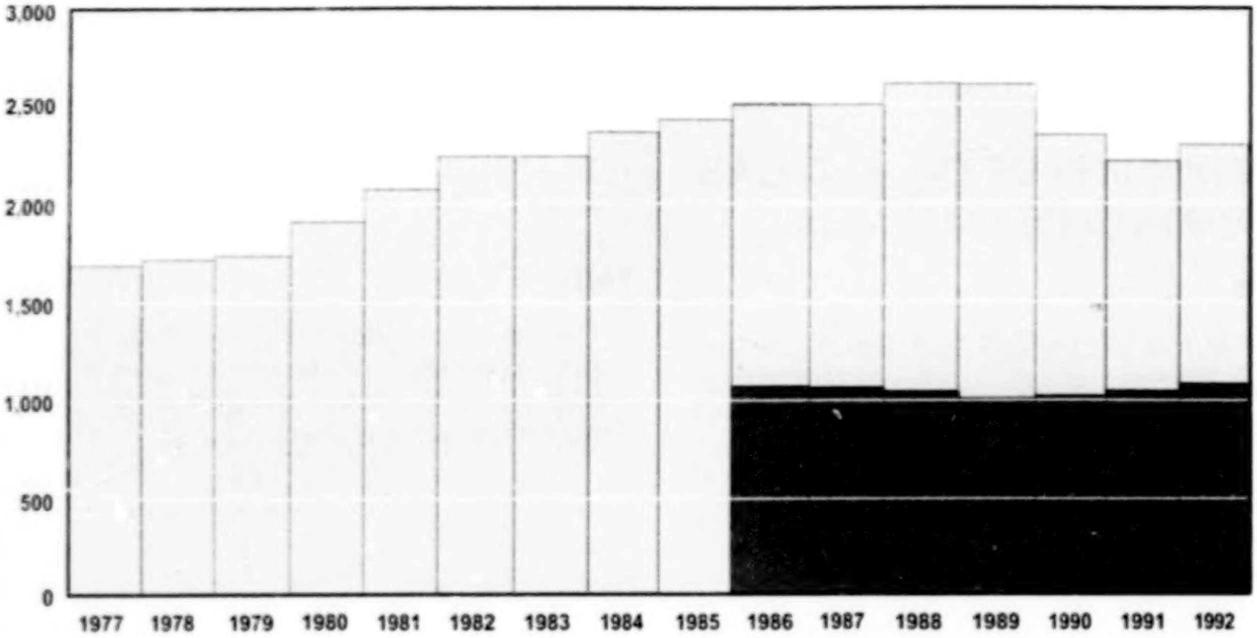
There is geological evidence that a petroleum source, reservoir quality strata, or a trapping mechanism is not present.

None

There is a demonstrated absence of a petroleum source, reservoir quality strata, or trapping mechanism. "Demonstrated absence" means physical evidence documented in geological literature.

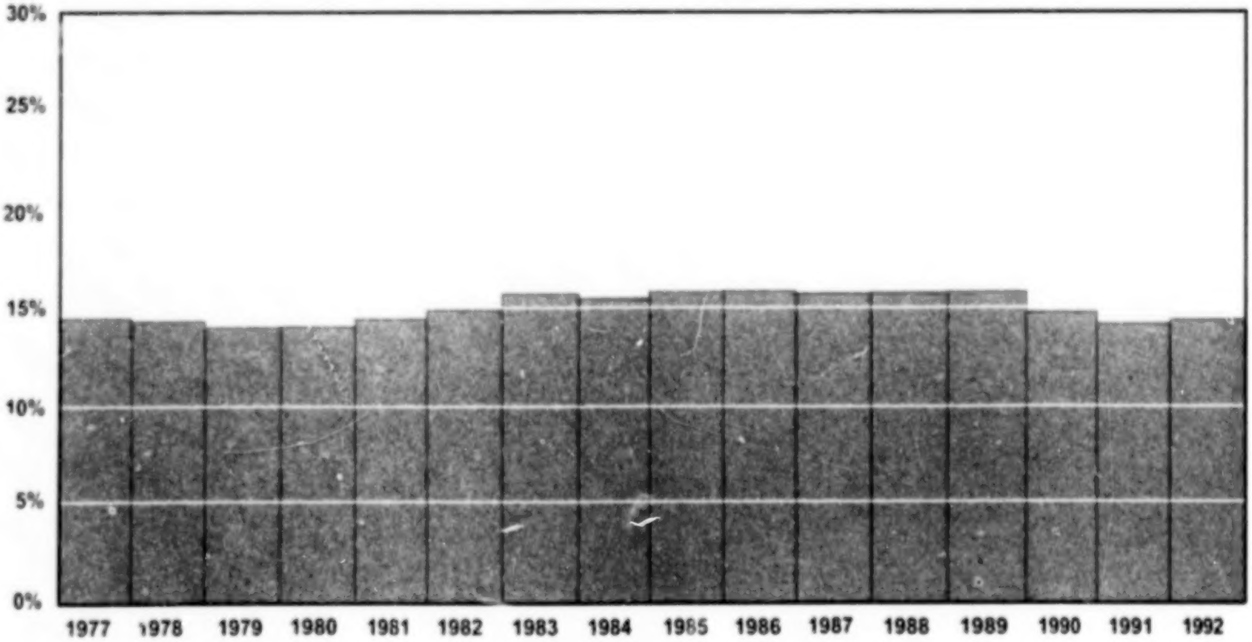
APPENDIX I

Figure I-1
Producing Wells



SOURCE: Wyoming Oil and Gas Conservation Commission and BLM. Data for Federal wells unavailable from 1977-1985.

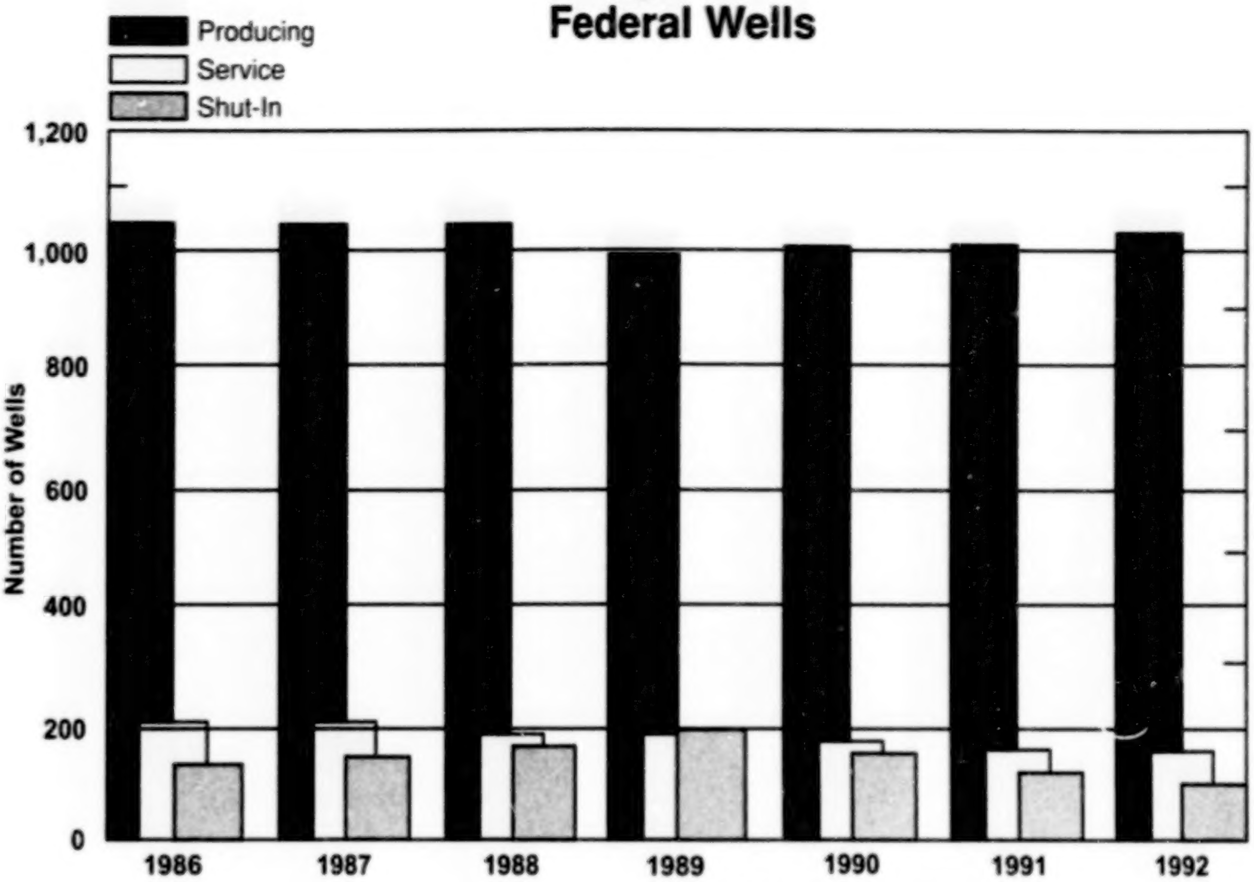
Number of Wells



SOURCE: Wyoming Oil and Gas Conservation Commission and BLM.

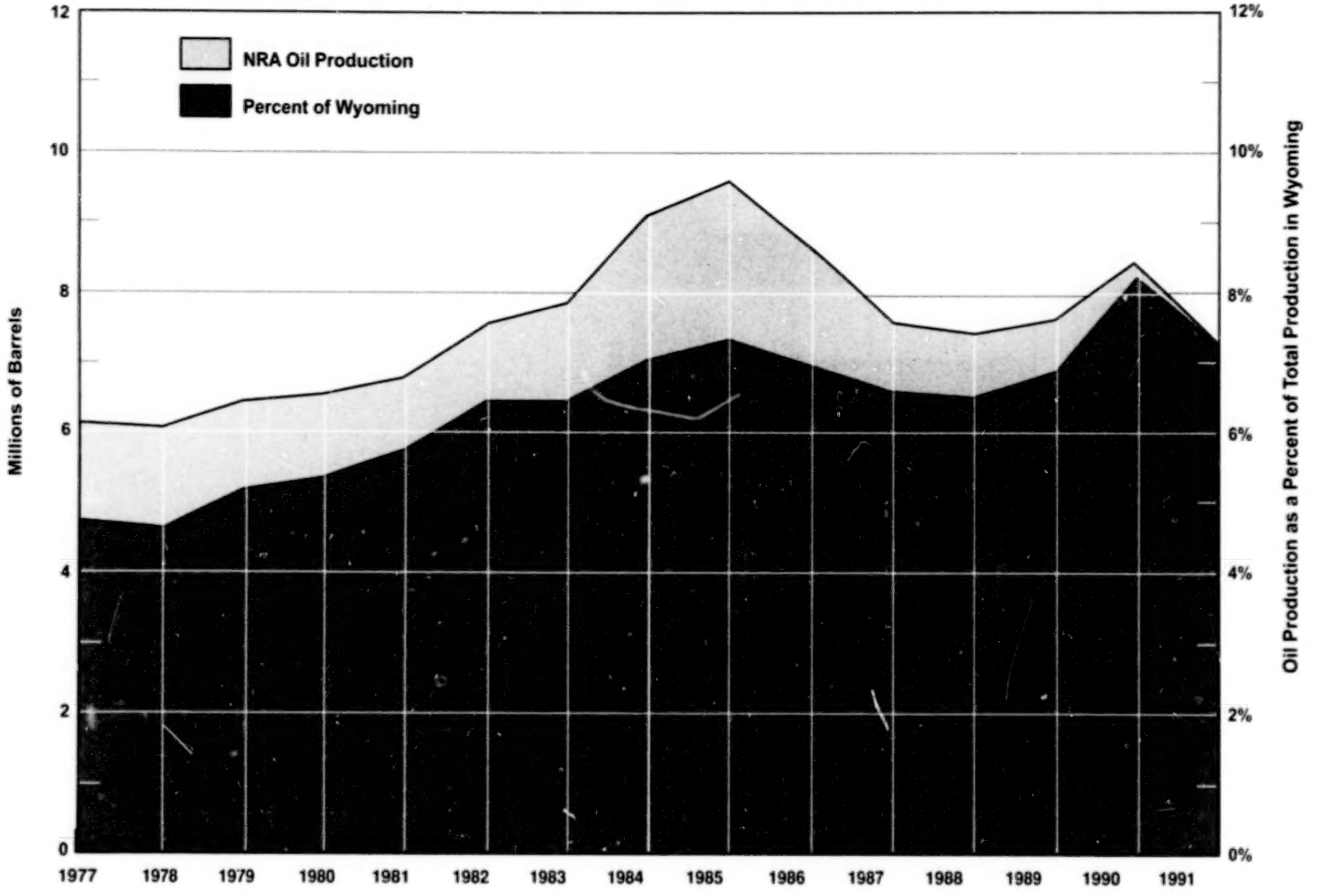
All Producing Wells as a Percent of Wyoming

Figure I-2
Federal Wells



SOURCE: Wyoming Oil and Gas Conservation Commission and Wyoming Geological Survey.

Figure I-3
Oil Production
in the Newcastle Field Area



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APPENDIX J

PLANT SPECIES AND ECOLOGICAL CHARACTERISTICS OF IMPORTANT PLANTS IN THE PLANNING AREA

Common and Scientific Name	Symbol	Origin[a]	Longevity[b]	Height[c]	Season of Maximum Growth Form[d]	Growth/ Flowering[e]	Grazing Behavior[f]	General Important Distribution[g]	Forage Value[h]
Grasses									
Bluegrass, Kentucky *Poa pratensis*	POPR	I/NA	P	M	R	C	Iv/Ic	T, M	G
Bluestem, Big *Andropogon gerardii*	ANGE	N	P	T	R	W	D	T	G
Bluestem, Little *Schizachyrium scoparium*	SCSC	N	P	M	B	W	D	T	G
Brome, Downy *Bromus tectorum*	BRTE	I	A	—	—	C	IV	M	G-P
Brome, Japanese *Bromus Japonicus*	BRJA	I/NA	A	—	—	C	Iv/Ic	M	G-P
Brome, Smooth *Bromus inermis*	BRIN	I	P	T	R	C	Iv	T	G
Buffalograss *Buchloe dactyloides*	BUDA	N	P	S	ST	W	Ic-L	M	G
Cordgrass, Prairie *Spartina pectinata*	SPPE	N	P	T	R	W	D	T	G
Dropseed, Sand *Sporbolus cryptandrus*	SPCR	N	P	M	B	W	Ic	M	F
Grama, Blue *Bouteloua gracilis*	BORG	N	P	S	B	W	Ic-L	M	G
Grama, Sideoats *Bouteloua curtipendula*	BOCU	N	P	M	B-R	W	Ic	T, M	G
Grass, Porcupine *Stipa spartea*	STSP	N	P	T	B	C	D	T	G
Indiangrass *Sorghastrum nutans*	SONA	N	P	T	B	W	D	T	G
Needle-and-thread *Stipa comata*	STCO	N	P	M	B	C	Ic-H	M	G
Needlegrass, Green *Stipa viridula*	STVI	N	P	M	B	C	D	M	G
Saltgrass, Inland *Distichlis stricta*	DIST	N	P	M	R	W	Ic	M	F
Sandreed, Prairie *Calamovilfa longifolia*	CALO	N	P	T	R	W	Ic	T, M	F
Switchgrass *Panicum virgatum*	PAVI	N	P	T	R	W	D	T	G
Threeawn, Red *Aristida longiseta*	ARLO	N	P	M	B	W	Ic-L	M	P
Wheatgrass, Crested *Agropyron cristatum*	AGCR (AGDE)	I	P	M	B	C	—	M	G

APPENDIX J

PLANT SPECIES AND ECOLOGICAL CHARACTERISTICS OF IMPORTANT PLANTS IN THE PLANNING AREA (Continued)

Common and Scientific Name	Symbol	Origin[a]	Longevity[b]	Height[c]	Season of Maximum Growth Form[d]	Growth/Flowering[e]	Grazing Behavior[f]	General Important Distribution[g]	Forage Value[h]
Wheatgrass, Intermediate *Agropyron intermedium*	AGIN	I	P	T	R	C	—	M	G
Wheatgrass, Slender *Agropyron trachycaulum*	AGTR	N	P	M	B	C	D	T & M	G
Wheatgrass, Western *Agropyron smithii*	AGSM	N	P	M	R	C	Ic-H	M	G
Wildrye, Canada *Elymus Canadensis*	ELCA	N	P	T	B	C	D	T	G
Wildrye, Russian *Elymus junceus*	ELJU	I	P	M	B	C	—	M	G
Grass-like									
Sedge, Needleleaf *Carex eleocharis*	CAEL	N	P	S	R	C	Ic	M	F
Sedge, Sun *Carex heliophila*	CAHE	N	P	S	R	C	D	T & M	G
Sedge, Threadleaf *Carex filifolia*	CAFI	N	P	S	B	C	Ic-H	M	G
Forbs									
Alfalfa *Medicago sativa*	MESA	I	P	M	SS	W	—	M, T	G
Boneset, False *Kuhnia eupatiodes*	KUEU	N	P	M	SS	W	D	T, M	G
Coneflower, Prairie *Ratibida columnifera*	RACO	N	P	M	SS	W	Ic-H	M, T	G
Crazyweed, Lambert *Oxytropis lambertii*	OXLA (AGDE)	N	P	M	SS	C	Ic	M	P
Dalea, Bigtop *Dalea enneandra*	DAEN	N	P	M	SS	W	D	M	G
Deathcama *Zygadenus panicultatus*	ZYPA	N	P	S-M	SS	C	Ic	M	Po
Gayfeather, Dotted *Liatris punctata*	LIPU	N	P	M	SS	W	D	M	G
Globemallow, Scarlet *Sphaeralcea coccinea*	SPCO	N	P	S	SS	W	Ic	M	F
Goldenrod, Missouri *Solidago missouriensis*	SOMI	N	P	M	RS	W	Ic	T	P
Goldenrod, Stiff *Solidago rigida*	SORI	N	P	M	RS	W	Ic	T	P
Gumweed, Curlycup *Grindelia squarrosa*	GRSO	N	B	M	SS	W	Iv	M	P

APPENDIX J

PLANT SPECIES AND ECOLOGICAL CHARACTERISTICS OF IMPORTANT PLANTS IN THE PLANNING AREA (Continued)

Common and Scientific Name	Symbol	Origin[a]	Longevity[b]	Height[c]	Season of Maximum Growth Form[d]	Growth/ Flowering[e]	Grazing Behavior[f]	General Important Distribution[g]	Forage Value[h]
Milkvetch, Groundplu *Astragalus crassicarpus*	ASCR	N	P	S	SS	C	D	M	G
Plume, Prince's *Stanlea pinnata*	STPI	N	P	M	SS	C	Ic	M	Po
Poisonvetch, Racemed *Astragalus racemosus*	ASRA	N	P	M	SS	C	Ic	M	Po
Poisonvetch, Twogrooved *Astragalus bisulcatus*	ASBI	N	P	M	SS	C	Ic	M	Po
Prairieclover, Purple *Petalostemon purpureum*	PEPU	N	P	M	(SS)	W	D	M	G
Sagewort, Cudweed *Artemisia ludoviciana*	ARLU	N	P	S-M	RS	C-F	Ic	M	P
Sampson, Black *Echinacea angustifolia*	ECAN	N	P	M	SS	W	D	T, M	G
Scurfpea, Silverleaf *Psoealea agrophylia*	PSAR	N	P	M	SS	C	Ic	M	P
Scurfpea, Slimflower *Psoralea tenuiflora*	PSTE	N	P	M	SS	C	Ic	M	P
Sunflower, Common Helianthus annuus	HEAN	N	A	—	SS	W	Ic-Iv	M	G
Sunflower, Maximilian *Helianthus maximuliana*	HEMA	N	P	T	RS	W	S	T	G
Sunflower, Stiff *Helianthus rigidus*	AERI	N	P	T	RS	W	D	TP	G
Sweetclover, Yellow *Melilotus officinalis*	MEOF	I/Na	B	S/M/T	SS	W	Iv/Ic	M	G
Vetch, American *Vicia Americana*	VIAM	N	P	S	SS	W	D	M	G
Semishrubs									
Sagewort, Fringed *Artemisia frigida*	ARFR	N	P	S-M	RS	C-F	Ic	M	P
Snakeweed, Broom *Gutierrezia sarothrae*	GUSA	N	P	M	SS	W	Ic	M	P
Yucca *Yucca glauca*	YUGL	N	P	M	RS	W	Ic	M	P
Shrubs									
Leadplant *Amorpha canescens*	AMCA	N	P	M	SS	W	D	T	G
Sagebrush, Big *Artemisia tridenta*	ARTR	N	P	S/M/T	SS	C-F	Ic	M	P

APPENDIX J

PLANT SPECIES AND ECOLOGICAL CHARACTERISTICS OF IMPORTANT PLANTS IN THE PLANNING AREA (Continued)

Common and Scientific Name	Symbol	Origin[a]	Longevity[b]	Height[c]	Season of Maximum Growth Form[d]	Growth/ Flowering[e]	Grazing Behavior[f]	General Important Distribution[g]	Forage Value[h]
Sagebrush, Silver *Artemisia cana*	ARCA	N	P	M-T	RS	C-P	Ic	M	F
Snowberry, Western *Symphoricarpos occidentalis*	SYOC	N	P	M	RS	W	Ic	M, T	F
Tree									
Chokecherry, Common *Prunus virginiana*	PRUI	N	P	T	SS	C	D	T	Po
Succulents									
Pear, Prickly *Opuntia polyacantha*	OPPO	N	P	S	—	W	Ic	M	P

[a] I = introduced, N = native, Na = naturalized

[b] A = annual, B = biennial, P = perennial

[c] S = short, M = mid, T = tall

[d] B = bunch, R = rhizomatous, ST = stolons, SS = single stem, RS = rootsocks

[e] C = cool, W = warm, C-F = fall growth

[f] Grazing behavior on a medium textured soil. D = decreaser, Ic = increaser, Ic-H = high level increaser, Ic-L = low level increaser, Iv = invader

[g] M = mixed prairie, T = true prairie

[h] G = good, F = fair, P = poor, Po = poisonous

SOURCE: USDI, BLM 1981a, 1981b, 1981c

APPENDIX K
POISONOUS PLANTS

Common/Scientific Name	Animals Endangered	Seasonal Toxicity
Deathcamus (*Zygadenus panicultatus*)	Sheep Cattle Horse	early spring and all season
Larkspur (*Delphinium nelsonii*)	Cattle Sheep Horse	summer and fall
Locoweed (*Astragalus* spp.)	Horse Cattle Sheep	year-round
Arrowgrass (*Triglochin maritima* and *Triglochin palustris*)	Sheep Cattle	summer and fall
Greasewood (*Sarcobatus vermiculatus*)	Sheep Cattle	fall
Halogeton (*Golmeratus*)	Sheep Cattle	year-round

NOTE: (In the "Animals Endangered" column, the names are listed in order of the animal's susceptability to the poison plant.) For additional information, see "22 Plants Poisonous to Livestock in the Western States." USDA, Agriculture Info. Bulletin 327, April 1968.

SOURCE: USDI, BLM 1981a, 1981b, 1981c.

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APPENDIX L

POPULATION AND HABITAT VARIABLES MATRIX FOR BIRD SPECIES OF SPECIAL CONCERN[1]

Birds	A. Ongoing significant loss of habitat.	B. Habitat is restricted or vulnerable but not recent or on-going **significant** loss; species may be **sensitive** to human disturbance.	C. Habitat is not restricted, vulnerable but no loss; species is not sensitive to human disturbance.	D. Habitat is stable and not restricted.
1. Populations are greatly restricted or declining - extirpation appears possible.	**SSC1** Common Loon	**SSC2**	**SSC3**	
2. Populations are declining or restricted in numbers and/or distribution - extirpation in not imminent.	**SSC2** Trumpeter Swan Bald Eagle Yellow-billed Cuckoo	**SSC3** American White Pelican American Bittern Black-crowned Night-Heron White-face Ibis Forster's Tern Black Tern Merlin Peregrine Falcon Long-billed Curlew Lewis' Woodpecker		
3. Species is widely distributed; population status and trends are suspected to be stable.	**SSC3** Ferruginous Hawk	**SSC4** Northern Goshawk		
4. Populations are stable or increasing and not restricted in numbers and/or distribution.				

POPULATION AND HABITAT VARIABLES MATRIX FOR MAMMAL SPECIES OF SPECIAL CONCERN[1]

Mammals	A. Ongoing significant loss of habitat.	B. Habitat is restricted or vulnerable but not recent or ongoing **significant** loss; species may be sensitive to human disturbance.	C. Habitat is not restricted, vulnerable but no loss; species is not sensitive to human disturbance.	D. Habitat is stable and not restricted.
1. Populations are greatly restricted or declining - extirpation appears possible.	**SSC1** Black-footed Ferret	**SSC2**	**SSC3**	
2. Populations are declining or restricted in numbers and/or distribution - extirpation is not imminent.	**SSC2** Long-eared Myotis Northern Myotis Fringed Myotis Long-legged Myotis Townsend's Big-eared Bat Pallid Bat Lynx	**SSC3** Black-tailed Prairie Dog Swift Fox		
3. Species is widely distributed; population status and trends are suspected to be stable.	**SSC3** Little Brown Myotis Big Brown Bat Western Small-footed Myotis			
4. Populations are stable or increasing and not restricted in numbers and/or distribution.				

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[1] WGFD 1996.

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APPENDIX M

PUBLIC PARTICIPATION DOCUMENTATION

[Federal Register: April 24, 1998 (Volume 63, Number 79)]
[Notices]
[Page 20404-20405]
From the Federal Register Online via GPO Access [wais.access.gpo.gov]
[DOCID:fr24ap98-55]

ENVIRONMENTAL PROTECTION AGENCY

[ER-FRL-5491-1]

Environmental Impact Statements; Notice of Availability

Responsible Agency: Office of Federal Activities, General Information (202) 564-7167 OR (202) 564-7153.

Weekly receipt of Environmental Impact Statements **Filed** April 13, 1998 Through April 17, 1998 Pursuant to 40 CFR 1506.9.

EIS No. 980122, Draft Supplement, COE, DE, Delaware Coast from Cape Henlopen to Fenwick Island Feasbility Study and Bethany Beach and South Bethany Interim Feasbility Study, Additional Information, Storm Damage Reduction and Construct a Protective Berm and Dune, Sussex County, DE, Due: June 08, 1998, Contact: Steve Allen (215) 656-6559.

EIS No. 980128, Draft EIS, BLM, WY, Newcastle Resource Management Plan, Implementation, Updated Information, Evaluates Alternatives for the Use Public and Federal Lands and Resources in Portions of Wyoming, Crook, Niobrara and Weston Counties, WY, Due: July 23, 1998, Contact: Floyd Ewing (307) 746-4453.

EIS No. 980129, Final EIS, FHW, TN, I-40 Reconstruction, I-40/I-240 Directional (Midtown) Interchange to TN-300 Interchange, Funding and Possible COE 404 Permit, Shelby County, TN, Due: May 26, 1998, Contact: James E. Scapellato (615) 736-5394.

EIS No. 980130, Final EIS, AFS, CO, South Quartzite Timber Sale, Timber Harvesting and Road Construction, White River National Forest, Rifle Ranger District, Grizzly Creek Rare II Area, Garfield County, CO, Due: May 26, 1998, Contact: David T. Van Norman (970) 927-5715.

EIS No. 980131, Final EIS, AFS, CA, Emigrant Wilderness Management

[[Page 20405]]

Direction, Implementation, Stanislaus National Forest, Tuolume County, CA, Due: May 26, 1998, Contact: Dave Martin (209) 965-3434.

EIS No. 980132, Draft Supplement, AFS, ID, Deadwood Ecosystem Analysis '96 Project, New Information on New Alternative, Implementation, Boise National Forest, Lowman Ranger District, Boise and Valley Counties, ID, Due: June 08, 1998, Contact: David D. Rittenhouse (208) 364-4100.

EIS No. 980133, Draft EIS, JUS, WV, Federal Correctional Institution near the City of Glenville, Construction and Operation, Gilmer County, WV, Due: June 08, 1998, Contact: David J. Dorworth (202) 514-6470.

EIS No. 980134, Draft EIS, FHW, NM, US 84/285 Highway Transportation Improvements from Alamo Drive in Santa Fe to Viarrial Street in Pojoaque, Right-of-Way Acquisition, NPDES Permit and COE Section 404 Permit, Santa Fe County, NM, Due: June 08, 1998, Contact: Gregory D. Rawlings (505) 820-2027.

EIS No. 980135, Final EIS, BLM, MT, Golden Sunlight Mine Expansion, Implementation of Amendment 008 to Operating Permit No. 0065, COE Section 404 Permit, Whitehall, Jefferson County MT, Due: May 26, 1998, Contact: David Williams (406) 494-5059.

EIS No. 980136, Final EIS, AFS, CA, Chico Genetic Resource Center for

Pest Management Program, Implementation, Mendocino National Forest, Willow, Butte County, CA, Due: May 26, 1998, Contact: Dennis Weber (503) 326-7171.

EIS No. 980137, Draft EIS, AFS, WA, I-90 Land Exchange between Forest Service and Plum Creek, within the Vicinity of the Wenatchee, Mt. Baker-Snoqualmie and Gifford Pinchot National Forests, Kittitas, King, Pierce, Lewis and Cowlitz and Skamania Counties, WA, Due: June 19, 1998, Contact: Floy Rogalski (509) 674-4411.

EIS No. 980138, Draft EIS, IBR, WA, Programmatic EIS--Yakima River Basin Water Enhancement (Phase 2) Project, Implementation, Benton, Yakima and Kittitas Counties, WA, Due: July 22, 1998, Contact: Ms. Lola Sept (208) 378-5032.

EIS No. 980139, Final Supplement, BLM, CO, NM, TransColorado Gas Pipeline Transmission Project, Construction, Operation and Maintenance, Section 404 and 10 Permits, Right-of-Way Grants and Special Use Permit, La Plata, Delta, Dolores, Garfield, Mesa, Montezuma, Montrose, Rio Blanco, San Miguel Counties, CO and San Juan County, NM, Due: May 26, 1998, Contact: Bill Bottomly (970) 240-5337.

EIS No. 980140, Draft EIS, FHW, MI, I-96 East Howell Interchange Project, Transportation Improvements, Funding, Major Investment Study, Cities of Howell and Brighton, Livington County, MI, Due: June 28, 1998, Contact: James A. Kirschensteiner (517) 377-1880.

EIS No. 980141, Final EIS, AFS, AK, Cascade Point Access Road, Construction, Maintenance and Operation, Road Easement within National Forest System land in the vicinity of Echo Cove, EPA Permit, COE Section 10 and 404 Permits, Juneau, AK, Due: May 26, 1998, Contact: Jennette C. de Leeuw (907) 790-7445.

Dated: April 21, 1998.

William D. Dickerson,

Director, NEPA Compliance Division, Office of Federal Activities.

[FR Doc. **98-10991 Filed** 4-23-**98**; 8:45 am]

BILLING CODE 6560-50-P

Number: 98-019
Date: April 27, 1998

CASPER DISTRICT
BLM NEWS

Casper District Office 1701 East E Street Casper, WY 82601

Contact: **Kate Padilla**
Pat Hiller

(307) 261-7600

SECOND DRAFT EIS AVAILABLE FOR NEWCASTLE RESOURCE AREA

CASPER: The second draft environmental impact statement for the resource management plan covering the public lands in the Wyoming portion of the Newcastle Resource Area has been released for public review and comment, according to a press release issued by the Bureau of Land Management. The BLM will accept comments through July 23.

The first draft EIS for the Newcastle RMP was issued in September 1993. "So that all interested persons would have an equal opportunity to review and comment, it was decided to update the document and reissue a second draft EIS," according to Gary Johnson, Newcastle Resource Area Manager. This document outlines four alternatives for managing the public lands and resources in the Newcastle Resource Area. The public lands include not only the federal surface administered by the BLM but also the federal mineral estate. The four alternative plans presented in chapter 2 focus on allocating public lands and resources among their uses and prescribing general management actions that would be taken. The alternatives are designed to resolve resource management issues that were identified with public involvement during the planning process. This document also describes the anticipated environmental consequences of implementing each alternative.

Your comments are invited on the alternatives and the descriptions of environmental consequences. The 90-day comment period began April 25 when the notice of availability of the draft EIS was published in the *Federal Register* by the Environmental Protection Agency.

Comments may be e-mailed (wynrmp@wy.blm.gov) or sent to Gary Johnson, Area Manager, or Jack Hanson, Team Leader, BLM, Newcastle Resource Area, 1101 Washington Boulevard, Newcastle, WY 82701. Comments will be fully considered and evaluated in the development of the RMP/final EIS.

The BLM will be holding public meetings and an open house during the 90-day comment period. The date, time, and location of the meetings and open house will be announced in the near future.

For additional information, or to request a copy of the draft document, interested persons may call the BLM's Newcastle Resource Area office at (307) 746-4453 or write to the address above.

(- end -)

Rediscover Your Public Lands

[Federal Register: May 4, 1998 (Volume 63, Number 85)]
[Notices]
[Page 24568]
From the Federal Register Online via GPO Access [wais.access.gpo.gov]
[DOCID:fr04my98-113]

[[Page 24568]]

DEPARTMENT OF THE INTERIOR

Bureau of Land Management
[WY-060-1610-00]

Notice of Availability

AGENCY: Bureau of Land Management, Interior.

ACTION: Notice of Availability of the second draft Environmental Impact Statement (EIS) for the Newcastle Resource Management Plan (RMP) for the Public Lands administered by the Bureau of Land Management (BLM) in the Wyoming portion of the Newcastle Resource Area.

SUMMARY: The first draft EIS for the Newcastle RMP was issued in September, 1993. It has been decided to update and reissue a second draft for further comment because some public comments were inappropriately accepted on the first draft after the comment period ended. All public comments received on the first draft EIS have been considered and changes in the second draft document have been made based on those comments. When published, the final EIS will contain the proposed Newcastle Resource Management Plan, the comments on the second draft EIS, and the BLM responses to them.

EFFECTIVE DATES: Written comments concerning the analysis will be accepted for 90 days following the date the Environmental Protection Agency (EPA) publishes a notice of availability and filing of the draft EIS in the Federal Register. The EPA notice of availability is expected to be published on April 24, 1998.

Public meetings will be held in Sundance, Newcastle, and Lusk, Wyoming, to provide opportunities for the public to meet with representatives from the BLM and to comment on the draft EIS. A court reporter will be in attendance to record all comments for the record. When the times, dates, and places for these meetings are established, the public will be notified in advance through Federal Register or other notices, news releases, or mailings. Persons who wish to be placed on the mailing list or participate in the Newcastle RMP planning process should contact the person(s) identified below at the Newcastle Resource Area Office.

The draft EIS may be viewed at the following locations: Newcastle Resource Area BLM Office, 1101 Washington Blvd., Newcastle, Wyoming; Wyoming BLM State Office, 5353 Yellowstone Road, Cheyenne, Wyoming; and county and city libraries in Crook, Niobrara and Weston counties. Copies of the draft EIS may be obtained from the address below.

FOR FURTHER INFORMATION CONTACT: Gary Johnson, Area Manager, or Project Leaders, Jack Hanson or Shelley Peele, Bureau of Land Management, Newcastle Resource Area, 1101 Washington Blvd., Newcastle, Wyoming 82701, phone 307-746-4453.

Comments, including names and street addresses of respondents, will be available for public review at the above address during regular business hours (7:45 a.m. to 4:30 p.m.), Monday through Friday, except holidays, and may be published with the final EIS. Individual respondents may request confidentiality. If you wish to withhold your name or street address from public review or from disclosure under the Freedom of Information Act, you must state this prominently at the beginning of your written comment. Such requests will be honored to the extent allowed by law. All submissions from organizations or businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, will be available for public inspection in their entirety.

SUPPLEMENTARY INFORMATION: The Bureau of Land Management Newcastle Resource Area administers all public lands and minerals (as defined by the Federal Land Management Policy Act (FLPMA)) in Crook, Niobrara, and Weston counties. The draft EIS for the Newcastle RMP presents four alternative multiple use management plans (or four alternative RMPs) for those public lands that were analyzed in detail: Alternative A (continuation of existing management direction) and three other alternatives that provide a variety of land use and resource management options for the public lands.

Issues addressed in the draft EIS include split-estate lands and the related limitations of BLM management responsibilities (particularly those involving non-Federal land surface over Federally owned minerals), the control of prairie dogs on intermingled public and private land ownerships, whether or not public lands in the Lance Creek Fossil Area should be designated an Area of Critical Environmental Concern (ACEC), and clarification of several maps in the first draft EIS to distinguish between public and non-Federal lands.

Dated: April 27, 1998.

Alan L. Kesterke,
Associate State Director.
[FR Doc. **98-11610** **Filed** 5-1-98; 8:45 am]
BILLING CODE 4310-22-P

Number: 98-022
Date: May 13, 1998

CASPER DISTRICT
BLM NEWS

Casper District Office 1701 East E Street Casper, WY 82601

Contact: Jude Carino
Kathy Alexander
(307) 261-7600

BLM SCHEDULES MEETINGS TO DISCUSS RESOURCE MANAGEMENT PLAN

CASPER: The Bureau of Land Management (BLM) has scheduled a series of open houses and public meetings in June to discuss and submit formal comments on the Draft Environmental Impact Statement (EIS) for the Newcastle Resource Management Plan. The planning area includes portions of Crook, Weston, and Niobrara counties.

Copies of the draft EIS were recently made available to the public for review and comment. The formal comment period began April 24 and will last 90 days. Comments on the plan will be accepted through July 23, 1998. The draft plan outlines four alternatives for managing the public lands and resources in the planning area. It covers topics such as grazing, oil and gas, recreation, and paleontological resources.

Open houses and public meetings have been scheduled as follows:

June 8, 1998
Crook County - Sundance, WY
Community Room (basement of the Crook County Courthouse)
Open House - 4:00 PM to 7:00 PM
Public Meeting - 7:00 PM to 9:00 PM

June 9, 1998
Weston County - Newcastle, WY
Bureau of Land Management
Newcastle Resource Area Office
1101 Washington Blvd
Open House - 9:00 AM - 4:30 PM
Public Meeting - 6:00 PM to 8:00 PM

June 11, 1998
Niobrara County - Lance Creek, WY
Lance Creek School
Open House - 6:00 PM to 7:00 PM
Public Meeting - 7:00 PM to 9:00 PM

(more)

The open houses will provide an additional chance for the public to meet with personnel from the BLM and discuss the draft EIS. The public meetings will provide a formal format for submission of comments. A court reporter will record all submissions at the public meetings.

Copies of the document are available by writing to Jack Hanson, Team Leader, 1101 Washington Blvd., Newcastle, WY, 82701 or by calling (307) 746-4453.

(end)

Number: 98-024
Date: June 3, 1998

CASPER DISTRICT
BLM NEWS

Casper District Office 1701 East E Street Casper, WY 82601

Contact: **Kathy Alexander**
Jude Carino
(307) 261-7600

BLM SCHEDULES MEETINGS TO DISCUSS RESOURCE MANAGEMENT PLAN

CASPER: The Bureau of Land Management (BLM) has scheduled three open houses and three public meetings this month in order for members of the public to discuss and submit formal comments on the draft environmental impact statement (EIS) for the Newcastle Resource Management Plan. The planning area includes portions of Crook, Weston, and Niobrara counties.

Copies of the draft EIS were recently mailed to the public for review and comment. The formal comment period began April 24 and will conclude July 23. The draft plan outlines four alternatives for managing the public lands and resources in the planning area. It covers topics such as grazing, oil and gas, recreation, and paleontological resources.

Open houses and public meetings have been scheduled as follows:

June 8, 1998
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Community Room (basement of the Crook County Courthouse)
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Newcastle Resource Area Office
1101 Washington Blvd
Open House - 9:00 AM - 4:30 PM
Public Meeting - 6:00 PM to 8:00 PM

June 11, 1998
Lance Creek, WY
Lance Creek School
Open House - 6:00 PM to 7:00 PM
Public Meeting - 7:00 PM to 9:00 PM

(more)

Copies of the document may still be obtained by writing to Jack Hanson, Team Leader, 1101 Washington Blvd., Newcastle, WY, 82701 or by calling (307) 746-4453.

(end)

Number: 98-026
Date: June 5, 1998

MKabs 7/5/98
Jc 6/5/98

CASPER DISTRICT
BLM NEWS

Casper District Office 1701 East E Street Casper, WY 82601

Contact: Kathy Alexander
Jude Carino
(307) 261-7600

CORRECTION

NEWCASTLE RESOURCE MANAGEMENT PLAN MEETING LOCATION CHANGED

CASPER: Due to office construction at the Bureau of Land Management's (BLM) Newcastle Resource Area office, the public meeting scheduled for June 9 from 6:00 to 8:00 p.m. to take comments on the draft environmental impact statement (EIS) for the Newcastle Resource Management Plan has been changed. The new location is the First Security Bank at 204 West Main Street in Newcastle. The open house will still be held at the BLM's Newcastle office from 9:00 a.m. to 4:30 p.m. on June 9. All other open houses and meetings will remain the same.

More information may be obtained by calling Jack Hanson, Team Leader, at (307) 746-4453.

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Rediscover Your Public Lands

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APPENDIX N

FIRE MANAGEMENT IMPLEMENTATION PLAN FOR THE BLM-ADMINISTERED PUBLIC LANDS IN THE STATE OF WYOMING

APPENDIX N

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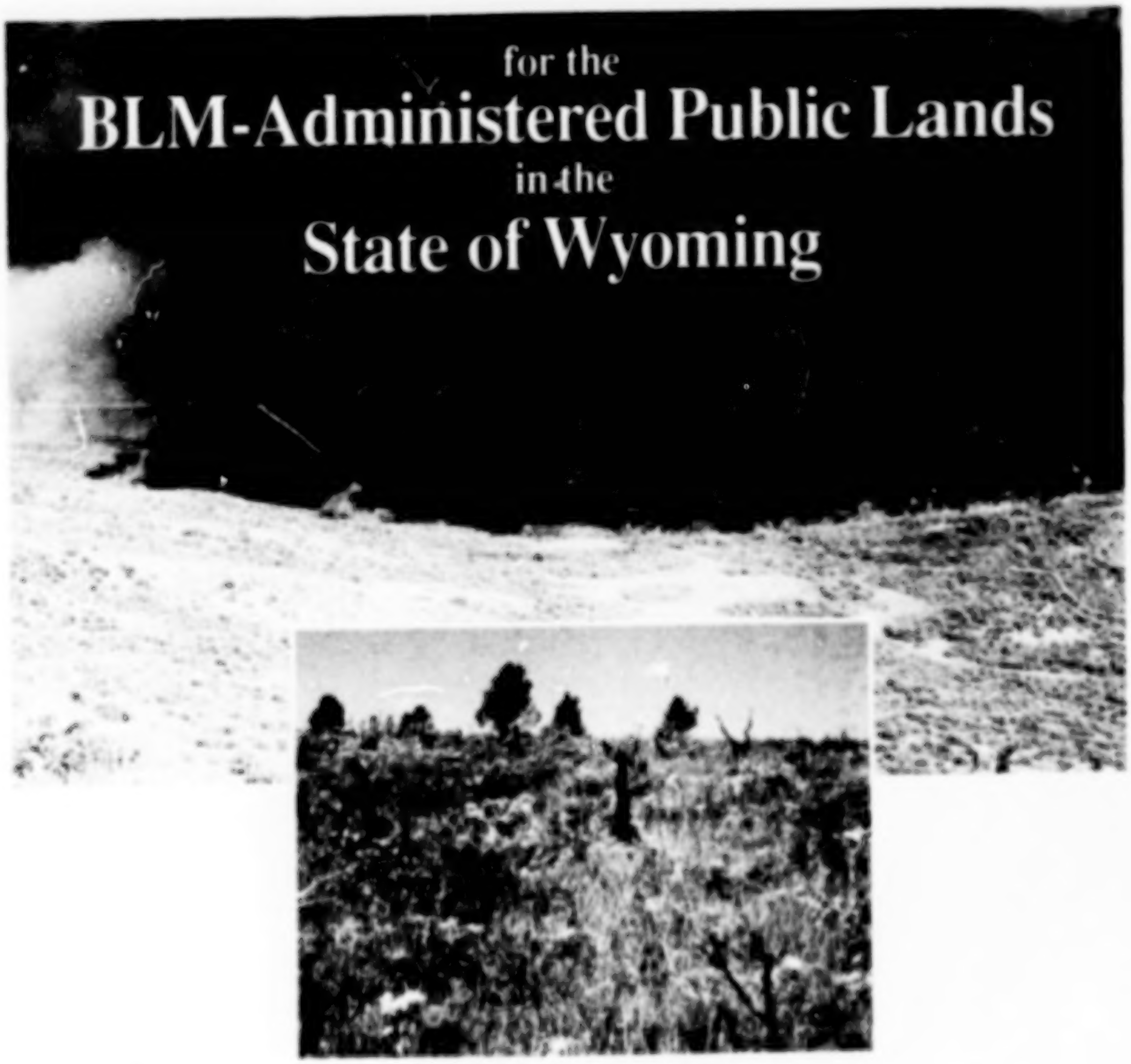
Fire Management
Implementation Plan

for the
BLM-Administered Public Lands
in the
State of Wyoming



July 1998

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U.S. Department of the Interior
Bureau of Land Management

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FIRE MANAGEMENT
IMPLEMENTATION PLAN
FOR THE
BLM-ADMINISTERED PUBLIC LANDS
IN THE
STATE OF WYOMING

Prepared by
U.S. Department of the Interior
Bureau of Land Management
Wyoming State Office
in coordination with the
Casper Field Office, the
Rawlins Field Office, the
Rock Springs Field Office, and the
Worland Field Office

July 1998

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ABBREVIATIONS

ACEC	area of critical environmental concern
AMR	appropriate management response
BLM	U.S. Department of the Interior, Bureau of Land Management
BOR	U.S. Department of the Interior, Bureau of Reclamation
RMEF	Rocky Mountain Elk Foundation
RMP	resource management plan
VRM	visual resource management
WGFD	State of Wyoming, Game and Fish Department
WSA	wilderness study areas

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
WYOMING STATE OFFICE

ADMINISTRATIVE DETERMINATION (AD) DOCUMENTATION FOR THE WYOMING BUREAU OF LAND MANAGEMENT FIRE MANAGEMENT PLAN

PART 1: PROJECT DESCRIPTION

The proposed action is to approve the Wyoming Bureau of Land Management (BLM) fire management plan to be submitted for implementation and inclusion in the Bureau-wide fire management plan.

PART II: PLAN CONFORMANCE REVIEW

The proposed Wyoming BLM Fire Management Plan was prepared in compliance and in accordance with the national guidance provided in BLM Manual Handbook H-9211-1, "Fire Management Activity Plan Procedures", and Information Bulletin No. 97-2031, "Guidance for Phase One of the Fire Management Planning Process" (2/5/97).

A review of all BLM land use plans in Wyoming was conducted to determine whether or not the proposed Wyoming BLM Fire Management Plan is in conformance with the land use plans (per 43 CFR 1610.5, BLM MS 1617.3). It was found that the proposed Wyoming BLM Fire Management Plan is in conformance and does not conflict with any BLM land use plans in Wyoming. Actually, the proposed fire management plan was basically derived from the fire management planning and management decisions contained in the land use plans. The specific plans involved are: Newcastle Management Framework Plan (MFP-1982) and the imminent Newcastle Resource Management Plan (RMP), Grass Creek MFP (1983) and the imminent Grass Creek RMP, Buffalo RMP (1985), Platte River RMP (1985), Kemmerer RMP (1986), Lander RMP (1987), Pinedale RMP (1988), Washakie RMP (1988), Cody RMP (1990), Great Divide RMP (1990), and Green River RMP (1997).

The planning objective and management action decisions in the BLM Resource Management Plans or Management Framework Plans (land use plans) in Wyoming provide for cost effective protection of life, property, and resource values from wildfire and to use prescribed fire to achieve multiple use management goals. As necessary, maintenance actions will be completed to incorporate new fire terminology in the older RMPs. No needs for amending any of the land use plans were identified. Minor maintenance needs for the land use plans may be identified in the future, as implementation of the Wyoming Fire Management Plan progresses. Since the Grass Creek and Newcastle RMPs are imminent and the new fire terminology has been incorporated into the RMP development process for those projects, the Grass Creek and Newcastle MFPs will not be maintained.

I certify that he proposed action has been reviewed for conformance with these plans (per 43 CFR 1610.5, BLM MS 1617.3).

/s/ Renee Dana
Reviewer (Renee' Dana, Resource Advisor - for Kemmerer, Pinedale, Green River RMPs)

/s/ Robert B Ross
Reviewer (Bob Ross, Resource Advisor - for Cody, Washakie, proposed Grass Creek RMPs, Grass Creek MFP)

/s/ Glen Nebeker
Reviewer (Glen Nebeker, Resource Advisor - for Buffalo, Platte River, proposed Newcastle RMPs, Newcastle MFP)

Reviewer (McWhirter, Resource Advisor - for Lander, Great Divide RMPs)

/s/ Joseph Patti Jr
Reviewer (Joe Patti, Field Planning Coordinator - for Wyoming State Office)

PART III: NEPA REVIEW

The environmental impact analyses conducted and documented in the environmental impact statements (EISs) for the above mentioned land use plans were reviewed and were found to be appropriate and adequate for making the fire management planning and management decisions contained in the land use plans. The specific EISs involved are: Platte River RMP EIS (1984), Buffalo RMP EIS (1985), Kemmerer RMP EIS (1985), Lander RMP EIS (1986), Washakie RMP EIS (1987), Pinedale RMP EIS (1987), Cody RMP EIS (1988), Medicine Bow/Divide (Great Divide) RMP EIS (1988), Green River RMP EIS, (1996), Grass Creek RMP EIS (1996), Newcastle RMP DEIS (1998).

The proposed Wyoming BLM Fire Management Plan is an action representative of the third tier of the BLM planning process (i.e., the activity or implementation planning tier) and was developed within the parameters and provisions of the fire management planning and management decisions contained in the above mentioned land use plans. While the Newcastle and Grass Creek "MFP" fire management decisions are not supported by environmental analyses, they are imminently to be replaced by "RMPs" which are supported by environmental analyses. The EISs for those imminent RMPs are also appropriate and adequate for the proposed fire management decisions in those on-going planning efforts. The Newcastle and Grass Creek portions of the proposed Wyoming BLM Fire Management Plan are in accordance with those proposed RMP decisions and will be assured to conform with the final decisions.

Approval of the proposed Wyoming BLM Fire Management Plan is an implementing action of decisions that have already been supported by the appropriate environmental analyses and documentation in the above mentioned EISs. Also, further site-specific environmental analyses will be conducted and documented for any prescribed burning project proposals before they are implemented.

Criteria for and Findings of the NEPA review

1. The proposed Wyoming BLM Fire Management Plan (the proposed action) is a feature of, or essentially the same as, the collective alternatives selected and analyzed in the existing documents.

2. A reasonable range of alternatives was analyzed in each of the existing documents.

3. There has been no significant change in circumstances or significant new information germane to the proposed action.

4. The methodology/analytical approach previously used is appropriate for the proposed action.

5. The direct and indirect impacts of the proposed action are not significantly different than those identified in the existing documents.

6. The proposed action would not change the previous analyses of cumulative impacts.

7. Public involvement in the previous analyses provides appropriate coverage for the proposed action. Public involvement was also conducted during development of the proposed Wyoming BLM Fire Management Plan and further public involvement will be conducted in the development of site-specific prescribed burning proposals before they are approved.

Findings: Upon review, I find that all of the above criteria are applicable to approval of the proposed Wyoming BLM Fire Management Plan.

/s/ Renée Dana
Reviewer (Renee' Dana, Resource Advisor - for Kemmerer, Pinedale, Green River RMPs)

/s/
Reviewer (Bob Ross, Resource Advisor - for Cody, Washakie, proposed Grass Creek RMPs, Grass Creek MFP)

/s/ Glen Nebeker
Reviewer (Glen Nebeker, Resource Advisor - for Buffalo, Platte River, proposed Newcastle RMPs, Newcastle MFP)

/s/
Reviewer (McWhirter, Resource Advisor - for Lander, Great Divide RMPs)

/s/ Joseph Patti Jr
Reviewer (Joe Patti, Field Planning Coordinator - for Wyoming State Office)

Remarks: The proposed Wyoming BLM Fire Management Plan is a part of implementing the existing BLM land use plan decisions for the BLM-administered public lands in Wyoming and is collectively addressed in the alternatives and impact analyses in the EISs for the RMPs.

PART IV: DECISION

I have reviewed this plan conformance and NEPA compliance record and have determined that the proposed Wyoming BLM Fire Management Plan is in conformance with the approved BLM land use plans in Wyoming and that no further environmental analysis is required. It is my decision to approve and implement the Wyoming BLM Fire Management Plan, as described in the copy attached.

State Director: Alan L Kesterke Date: 7/27/98
for Alan R. Pierson

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FIRE MANAGEMENT IMPLEMENTATION PLAN
FOR THE
BLM-ADMINISTERED PUBLIC LANDS
IN THE
STATE OF WYOMING

INTRODUCTION

A Federal Wildland Fire Management Policy and Program Review was completed in December 1995 by the Department of the Interior and the Department of Agriculture with assistance from other federal departments, agencies, and partners. This review affirmed that public and firefighter safety continue to be the Bureau of Land Management's (BLM) top fire management priorities. The review placed the second highest priority on protecting natural resources and property, while recognizing fire's essential role in nature for restoring and maintaining the health of the public lands.

As a result of this national review and its recommendations, a statewide effort to review fire management and suppression activities on BLM-administered public lands in Wyoming was initiated. This involved a review of the eleven BLM land use plans in Wyoming. Those plans are:

Buffalo Resource Management Plan (RMP)
Cody RMP
Grass Creek RMP
Great Divide RMP
Green River RMP
Kemmerer RMP
Lander RMP
Newcastle Management Framework Plan
Pinedale RMP
Platte River RMP
Washakie RMP

This review of the land use plans included identification of management strategies that would achieve desired resource conditions, and reduce the potential for catastrophic wildfires through management of fuels, in addition to identifying any new fire management prescriptions. After careful review, the land use plans were found to be in conformance with the fire management policy and it was determined that no new fire management prescriptions were needed. Some land use plans would require minor maintenance, or clarification, to incorporate new terminology related to the fire management policy.

The planning review addresses fire management and suppression decisions on BLM-administered public land surface in Wyoming. These decisions do not cover fire management or suppression on state or private land, or on lands administered by other federal agencies, including the Bureau of Reclamation and the Forest Service.

The BLM-administered public lands covered by this review comprise about 17.5 million acres. These lands will be described as "public lands" throughout this planning review document. Other terminology is defined in the Glossary. In particular, the definitions for wildfire, wildland fire, and prescribed fire, which occur early in this document, should be reviewed. These terms have specific meanings identified by the federal wildland fire management policy which may differ from some definitions used in the past.

PUBLIC PARTICIPATION

With scoping letters and media releases starting in July 1996, and a *Federal Register* notice dated April 23, 1997, the BLM requested public participation in reviewing its fire management and suppression activities on public lands in Wyoming.

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Specific public participation activities included one-on-one meetings with interested parties, open houses, field trips, and meetings with other governmental agencies such as the Forest Service, Environmental Protection Agency, Wyoming Game and Fish Department, Wyoming Department of Environmental Quality, and county commissions.

The purposes of these public participation activities were to identify fire management objectives and strategies to achieve desired resource management objectives stated in BLM land-use plans; improve fire management coordination with other federal and state agencies, local governments, and Indian tribes; reduce the potential for catastrophic wildfires through the management of fuels; improve communication to promote fire line safety; and achieve a better understanding of fire's role in the natural environment. During the planning review the BLM has also attempted to gather information on public health and safety, smoke management, public perceptions regarding fire, and economic considerations.

FIRE MANAGEMENT OBJECTIVES AND STRATEGIES FOR BLM-ADMINISTERED PUBLIC LANDS IN WYOMING

GENERAL

Wildland and prescribed fire would be used to achieve resource objectives identified in land use plans and implementation plans to reduce dangerous accumulations of fuels.

Fire management agreements among the BLM, other federal agencies, the counties, the state of Wyoming, and other cooperators would be updated and maintained as necessary.

In general, the use of heavy equipment for fire management would be minimized on all public lands in Wyoming. Vehicle tracks, fire lines, and emergency access routes would be rehabilitated to prevent continued use.

The BLM will promote public education regarding fire management, including restrictions on the use of fire on public land.

The BLM policy requires suppression of trespass fires and compensation for all suppression costs. Trespass fires are unauthorized human-caused fires on public lands.

Wildland and prescribed fires would be managed in all vegetation types to maintain or improve biological diversity and the health of the public lands. In particular, plant species and age class diversity would be a priority.

Burned areas would be monitored for the control of noxious weeds. Vegetation treatments and other follow-up management actions, as needed, would be used to prevent the spread of weeds.

The accomplishment of land use and resource management objectives would be tracked through the BLM's Geographic Information System.

In the Pinedale planning area, vegetation treatments, including the use of prescribed fire, would be applied to no more than 20 percent of the area within 2 miles of active sage grouse leks, during a 10-year period.

WILDFIRE MANAGEMENT

As defined by policy, wildfires are unwanted natural- or human-caused fires and therefore will be suppressed. The following are examples of resources or areas that would be protected from wildfire.

- communities;
- campgrounds and other developed recreational areas;
- rock art, cultural sites, and historic structures;

- commercial timber where hazardous fuels exist;
- oil and gas fields and related facilities;
- utility and road rights-of-way;
- lands with intermingled federal, state, and private ownership where there are currently no agreements for using wildland fire as a resource management tool; and
- other areas as identified through continued public involvement in this fire management planning effort.

WILDLAND FIRE MANAGEMENT

The BLM in Wyoming will emphasize an "appropriate management response" (AMR) to naturally-caused wildland fires based on a consideration of firefighter and public safety, anticipated management costs, resource values at risk, resource benefits, threats to private property, opportunities for reducing hazardous fuels, and political and social concerns.

Appropriate management response would involve a wide range of fire management options. These might include confining or containing a wildland fire so it stays within a predetermined boundary, or aggressively and quickly suppressing the fire.

On all BLM-administered lands in Wyoming, wildland fire would be managed to improve natural resources.

To reduce wildland fire management costs and increase resource benefits, fires would be allowed to burn up to natural fuel breaks where and when feasible.

Minimal impact suppression techniques and restrictions or prohibitions on the use of heavy equipment would be applied in wilderness study areas (WSAs) and in sensitive areas identified elsewhere in this document. Fire retardant drops generally would be prohibited or restricted within 200 feet of water and in the vicinity of significant cultural resources.

PRESCRIBED FIRE

On all public lands in Wyoming, prescribed fire would be used to improve natural resource conditions and reduce hazardous fuels where management objectives have not been met by wildland fire or other vegetation treatments.

Prescribed fires would also be used to create fuel breaks and reduce hazardous fuels, especially in the early spring and late fall when vegetation is dormant and there is higher ground moisture.

Prescribed fire would be used in combination with all other vegetation treatments, as appropriate, including manual, mechanical, biological, and chemical methods.

A naturally-caused fire occurring during favorable conditions in an area with a prescribed fire plan would be treated as a prescribed fire.

A general objective for fire treatments would be to remove excessive brush or woodland canopy in mosaic patterns. The percentage of brush or canopy removed would depend on the resource management objectives for the area which may include wildlife habitat needs, forage production for livestock, and watershed improvement.

Management objectives for the juniper and limber pine woodlands would be to promote age class diversity and reduce woodland invasion into more productive grasslands and commercial forests.

FIRE MANAGEMENT AREAS

Fire management objectives and strategies were identified for 58 geographical areas on public lands in Wyoming. (See attached maps.) These areas were based on broad factors like fire frequency, elevation, and vegetation.

The following descriptions may vary from area to area in the information provided and in the level of detail of that information. The areas also show considerable variations in size. These differences can be related to vegetation types, administrative boundaries, landownership patterns, variations in specificity among the eleven resource management plans, and whether or not more detailed activity or implementation plans have been developed.

Area 1: Central Bighorn Basin

The resource management objectives for this broad area of saltbush and sagebrush is to maintain plant community composition and maintain or improve watershed conditions. Low frequency fires are desired to promote plant species and age class diversity. Emphasis would be placed on suppressing wildland fires in cottonwood riparian areas.

Full suppression would be practiced on most fires in the central Bighorn Basin. Most are human-caused (trespass) fires near agricultural and riparian areas. Generally, fire occurrence is low. Naturally-caused wildland fires would be managed to achieve resource management objectives, keep suppression costs at a minimum, and protect private property and improvements. Several oil fields in this area would need protection from fire.

Restrictions on the use of heavy equipment and other minimal impact suppression techniques would be followed in the Bobcat Draw Badlands, Sheep Mountain, Red Butte, and McCullough Peaks WSAs and in the vicinity of the Red Gulch Dinosaur Tracksite.

Prescribed fire opportunities are limited to small shrub-dominated riparian areas and some isolated areas of dense sagebrush. One of the primary concerns with using fire in the central Bighorn Basin is that the smoke can easily reach local communities.

In the central Bighorn Basin the desired burn acreage in sagebrush is from 1,500 to 2,500 per decade under any fire intensity level. It is anticipated that naturally-caused wildland fires in sagebrush generally would be confined or contained to less than 100 acres each. In riparian areas, naturally-caused wildland fires would be confined or contained to less than 10 acres under moderate to high fire intensity levels.

Fire, mechanical, and chemical treatments would be used to produce mosaic patterns in about 2,000 acres of sagebrush per decade. The purpose would be to restore herbaceous vegetation, promote age-class diversity, and maintain adequate cover for sage grouse, mule deer, antelope, and other wildlife.

About 200 acres per decade would be treated in riparian areas to restore herbaceous vegetation and promote desirable shrubs.

Area 2: Southern Bighorn Basin

The resource management objective for this area, which contains extensive tracts of cheatgrass and Japanese brome, is to prevent the spread of these undesirable annual grasses, and to maintain or promote sagebrush vegetative communities. Historically, fire size has been small in this area. However, fire size and occurrence appear to be increasing as cheatgrass and Japanese brome increase. In 1996, approximately 78,000 acres of sagebrush were burned by wildland fires in this area.

Restrictions on the use of heavy equipment and other minimal impact suppression techniques would be followed in the Cedar Mountain and Honeycombs WSAs and in or near the Castle Gardens Campground.

Prescribed fire opportunities are few, being limited to small burns during the spring to control cheatgrass and a few burns in areas of dense sagebrush. An important safety concern in this area is the likelihood of fast-moving cheatgrass and sagebrush fires during the summer.

In the southern Bighorn Basin the desired burn acreage in sagebrush is 500 to 1,000 per decade, primarily in the spring and fall, and under moderate fire intensity levels.

High-intensity wildland fires during hot summer weather (usually in July and August) promote the increase of cheatgrass and Japanese brome. Therefore, wildland fires during this period should be confined or contained to less than 100 acres, by receiving full suppression. The desired burn acreage in juniper and limber pine is 500 to 1,000 per decade. Any wildland fires in these woodlands, which would result in moderate to high intensity-level fires, would be confined or contained to 100 acres.

About 1,000 acres of cheatgrass would be treated per decade by prescribed burning, mechanical, and chemical methods. Prescribed fires would be limited to the Spring.

Area 3: Northern Absaroka Mountains

The resource management objective for this area is to maintain healthy forests and rangelands and to reduce the encroachment of juniper and limber pine. Emphasis would be placed on maintaining commercial timber on Rattlesnake Mountain. Fires in this area are highly visible to tourists on their way to Yellowstone Park. Therefore, effective smoke management and education efforts concerning fire's role in nature are important.

Generally, the BLM would aggressively respond to wildland fires in this area. An appropriate management response would be determined after the fire is assessed. The primary safety concerns for fire control are steep, rocky slopes making access and working conditions difficult and dangerous. Fire and fuels management are important issues along the interface between urban and wildland areas (urban interface), particularly where dense fuels exist.

Fire occurrence has been moderate in this area. However, large fires on Rattlesnake Mountain during the 1960s and early 1970s created a heightened awareness of fire among the citizens of Cody. Both Rattlesnake Mountain and Sheep Mountain are highly visible from the city of Cody and the North Fork of the Shoshone River, a major travel route to Yellowstone National Park.

In Wyoming and mountain big sagebrush communities of this area, desired burn acreage is from 2,000 to 4,000 per decade, under low to moderate fire intensity levels. Naturally-caused wildland fires would be confined or contained to less than 40 acres under moderate to high fire intensity levels.

In juniper and limber pine communities, the desired burn acreage is from 2,000 to 3,000 per decade. Naturally-caused wildland fires would be confined or contained to less than 40 acres under high fire intensity levels.

About 7,000 acres of mixed conifer occur on public land in the northern Absaroka Mountains. The desired burn acreage is 10 to 50 per decade, under low to moderate fire intensity levels. Since 1963, about 6,000 acres of lodgepole pine and spruce have burned on Rattlesnake Mountain. Each naturally-caused wildland fire would be confined or contained to less than 10 acres, under moderate or high fire intensity levels.

Opportunities for the use of prescribed fire in overmature and declining spruce-fir stands is limited to creating fuel breaks, reducing hazardous fuels, and burning logging slash. About 3,000 acres of juniper and limber pine would be treated to reduce woodland invasion into sagebrush and grass parks and to eliminate fuel hazards near urban areas. Prescribed burns are currently planned for 1,000 acres of sagebrush and juniper and limber pine woodlands. Other treatment methods would affect about 4,000 acres of sagebrush.

Area 4: Southern Bighorn Mountains

The resource management objective is to restore ponderosa pine stands to a healthy condition and maintain or improve habitat diversity in sagebrush and juniper vegetative communities. Aspen and mixed conifer types would be maintained or improved. Naturally-caused wildland fires would be managed under an appropriate management response. Roads and natural barriers would be used for control lines as much as possible. In this area emphasis is placed on protecting summer cabins and areas of urban interface.

Restrictions on the use of heavy equipment and other minimal impact suppression techniques would be followed in the Alkali Creek, Medicine

Lodge, and Trapper Creek WSAs and in the Spanish Point Karst Area of Critical Environmental Concern (ACEC).

Noxious weeds exist locally in the southern Bighorn Mountains and would be monitored in burn areas. Prescribed burns would be focused in juniper and limber pine encroachment areas. Efforts to reduce fuels would be concentrated in ponderosa pine stands to restore a low intensity, high frequency fire regime. The primary safety concerns for fire control are steep, rocky canyons making access and working conditions difficult and dangerous. Smoke is a concern near towns such as Ten Sleep and Hyattville and in the Cloud Peak Wilderness Area to the east.

Fire occurrence is moderate throughout this management area, with the highest density of wildland fires located in juniper and ponderosa pine communities.

In areas dominated by Wyoming and mountain big sagebrush, the desired burn acreage is 6,000 to 10,000 per decade. Naturally-caused wildland fires would be confined or contained to less than 100 acres, under high fire intensity levels. During the last decade, approximately 2,100 acres of sagebrush have burned.

In areas of juniper and limber pine, the desired burn acreage is 5,000 to 8,000 per decade. Each naturally-caused wildland fire would be confined or contained to less than 100 acres, under high fire intensity levels. Wildland fire suppression efforts would take maximum advantage of natural barriers and fuel breaks to reduce hazards to personnel and equipment. Much of the juniper and limber pine is located in steep, rocky canyons where access and working conditions are difficult and dangerous.

In ponderosa pine, the desired burn acreage is about 2,800 per decade. The BLM would attempt to confine or contain wildland fires to less than 10 acres, under moderate to high fire intensity levels. As in areas of juniper and limber pine, steep rocky canyons and poor accessibility are safety concerns.

The desired burn acreage in mixed conifer communities is about 500 per decade. The BLM would attempt to confine or contain wildland fires to less than 10 acres, under high fire intensity levels.

There is considerable potential for managing fuels throughout this area. Approximately 7,600 acres have been prescribed burned during the past decade. Prescribed burns are currently planned for 2,200 acres annually in sagebrush and juniper communities. The desired burn acreage is 13,500 to 21,200 per decade, however significant limiting factors of topography, landownership pattern, wildlife habitat, and livestock grazing affect the feasibility of these treatments.

Objectives are to treat 8,000 acres of sagebrush, 7,000 acres of juniper, and 2,000 acres of ponderosa pine per decade. Treatment efforts would focus on reduction of juniper invasion into ponderosa pine and sagebrush and grass communities. Fire, timber harvests, and mechanical and chemical treatments would be used to maintain or increase the relatively limited areas dominated by ponderosa pine. Treatments would also be used to reduce hazardous fuels and improve diversity in sagebrush throughout the mixed conifer areas. Fire would be used to promote uneven-aged timber stands and to reduce disease.

Area 5: Southern Absaroka Mountains

The resource management objectives are to restore aspen stands which are dying of old age, improve the health of diseased and bug-infested conifer forests, and reduce the amount of juniper and limber pine invasion into sagebrush communities and riparian areas. Emphasis would be placed on avoiding the loss of commercial timber and improving big game winter range. Fuels have built up in timber because of insect damage and past fire suppression.

Wildland fires would be managed under an appropriate management response. Restrictions on the use of heavy equipment and other minimal impact suppression techniques would be followed in the Owl Creek WSA and in the Carter Mountain ACEC.

Extensive use of prescribed fire would be made to improve big game habitat, reduce hazardous fuels, restore aspen stands, and limit the encroachment of sagebrush and juniper. A primary concern is the need to protect summer cabins from wildland fire.

Historically, fire occurrence has been low and only small acreages have burned. Precipitation accompanies most storms in this area, limiting the spread of lightning-caused fires.

In areas dominated by Wyoming and mountain big sagebrush, the desired burn acreage is 7,000 to 10,000 per decade. The BLM would attempt to confine or contain wildland fires to 100 acres, under high fire intensity levels.

In juniper and limber pine communities, the desired burn acreage is 5,000 to 8,000 per decade. The BLM would attempt to confine or contain wildland fires to less than 100 acres, under high fire intensity levels.

In areas of mixed conifer and aspen, the desired burn acreage is 800 to 1,000 per decade. The BLM would attempt to confine or contain wildland fires to less than 20 acres, under high fire intensity levels.

Approximately 10,600 acres of sagebrush, juniper, and limber pine have been burned with prescribed fire during the past decade. Prescribed burns are currently planned for 1,700 additional acres. The desired burn acreage is 13,000 to 19,000 per decade. Objectives are to treat 10,000 acres of sagebrush, 7,000 acres of juniper and limber pine, and 500 acres of mixed conifer and aspen. Most vegetation treatments would be done to reduce juniper and limber pine invasion into sagebrush and riparian areas, and for reduction of hazardous fuels caused by pine beetle infestations. Along with fire, timber harvests, and mechanical and chemical treatments would be used to rejuvenate aspen stands.

Area 6: Northern Bighorn Mountains

The resource management objective is to restore plant diversity in the juniper and sagebrush vegetative communities. Emphasis would be on protecting cultural resources, cave and karst features in the Little Mountain ACEC, and the Five Springs Falls Campground and ACEC. Naturally-caused wildland fires would be managed under an appropriate management response.

Restrictions on the use of heavy equipment and other minimal impact suppression techniques would be followed in the Little Mountain ACEC. The primary safety concerns for fire control are steep, rocky slopes making some wildland fires difficult and dangerous to access.

Historical fire occurrence and the acreages burned have been low in the northern Bighorn Mountains.

In areas dominated by Wyoming and mountain big sagebrush, the desired burn acreage is 2,000 to 5,000 per decade. The BLM would attempt to confine or contain wildland fires to less than 100 acres, under moderate fire intensity levels.

In juniper and limber pine communities, the desired burn acreage is 500 to 1,000 per decade. The BLM would attempt to confine or contain wildland fires to less than 100 acres, under high fire intensity levels.

Approximately 4,900 acres of sagebrush and juniper have been prescribed burned during the past 10 years. Objectives are to treat 4,000 acres of sagebrush and 1,000 acres of juniper and limber pine per decade. Vegetation treatments consisting of prescribed burns, and mechanical or chemical methods, would be used to restore herbaceous vegetation in sagebrush communities, and to remove encroaching juniper. These same treatments would be used to create mosaics and diversity in established juniper woodlands.

Area 7: Bridger Mountains

The resource management objective is to sustain the productivity and diversity of juniper and

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sagebrush vegetative communities. Emphasis would be placed on protecting private property and cultural resources. Historical fire occurrence and acreages burned have been very low in the Bridger Mountain area. The Hot Springs County fire district does most of the initial attack because of the large amount of private land in this area. Therefore, BLM's efforts are largely that of providing suppression assistance. Generally, the BLM would aggressively respond to wildland fires in this area. An appropriate management response would be determined after the fire is assessed. Fire management concerns relate to smoke settling into Thermopolis and outlying communities and restricted access resulting from locked gates.

The use of prescribed fire would be limited to small areas of sagebrush and juniper. The BLM would coordinate with adjacent nonfederal landowners for mutually beneficial prescribed fires and broadcast burning.

In areas dominated by Wyoming big sagebrush, the desired burn acreage is 2,000 to 4,000 per decade. The BLM would attempt to confine or contain wildland fires to less than 100 acres, under high fire intensity levels.

In juniper and limber pine vegetative communities, the desired burn acreage is 1,500 to 2,000 per decade. The BLM would attempt to confine or contain wildland fires to less than 100 acres, under high fire intensity levels.

Few opportunities exist for BLM-initiated prescribed burning because of landownership patterns and low fuel densities. Vegetation treatment objectives, to be accomplished as opportunities arise, are to burn 1,000 acres of sagebrush and 500 acres of juniper.

Area 8: Woods Landing, Jelm and Sheep Mountains

The resource management objectives for these areas—consisting largely of upland shrub, woodland, and timber—are to increase browse and forage for big game and livestock, reduce sagebrush encroachment, and stimulate aspen regeneration.

Landownership is intermingled in this area; about 50 percent is public land. There are many structures and facilities associated with ranches and summer cabins in the area. Therefore, wildland fires would be fully suppressed, although no heavy equipment would be used on the initial attack.

Fire suppression is difficult in some places because of locked gates and steep slopes. A protection exchange agreement with the Medicine Bow National Forest and an annual operating plan with Albany County have been established for fire suppression. The BLM would attempt to contain each wildland fire to less than 5 acres at least 90 percent of the time. Smoke management is important because of the Jelm Mountain observatory.

Fire frequency has been low, averaging less than two fires per township, with most fires being contained within one burning period.

The desired burn acreage is about 50 to 100 per decade in woodland and timber vegetative communities. On these public lands, opportunities for reducing hazardous fuels include slash burning adjacent to the national forest. Approximately 2,000 acres are proposed for prescribed burns per decade in all vegetative communities.

Area 9: Encampment Canyon Wilderness Study Area

The resource management objective for this area of upland shrub and timber is to reduce sagebrush and pine encroachment into other vegetative communities and to stimulate aspen regeneration. This area abuts a national forest wilderness area, is a heavy recreational use area, and includes a BLM-administered recreation site and many private cabins.

This area would be subject to full suppression of wildland fires, pursuant to a protection exchange agreement with the Forest Service. Restrictions or prohibitions on the use of heavy equipment and other minimal impact suppression techniques would be required. Access is generally limited to foot or horseback. The BLM would attempt to contain each wildland fire to less than 5 acres at least 90 percent of the time.

Fire frequency is low (less than two fires per township) and many are single-tree fires from lightening strikes. The desired burn acreage is about 600 per decade. Less than 200 acres are proposed for prescribed fires, some burns being planned to improve bighorn sheep habitat.

Area 10: Seminoe and Shirley Mountains Area

The resource management objective for BLM-administered public lands near Seminoe and Pathfinder reservoirs, characterized by upland shrub and sand dunes, is to use fire to increase forage for big game and livestock. The resource management objective for timber and woodland vegetation communities, comprising important wildlife habitat in the Shirley Mountain and Bennett Peak areas, is to use prescribed fire and timber harvesting to reduce disease and insect infestations and promote healthy timber regeneration. This is especially important in elk winter and calving ranges on Shirley Mountain.

On public lands near Seminoe and Pathfinder reservoirs full suppression would be used, consistent with county assistance agreements and agreements with the Bureau of Reclamation (BOR), where BOR-withdrawn lands are involved. No heavy equipment would be allowed on initial attack because of steep slopes and fragile, sandy soils.

Restrictions or prohibitions on the use of heavy equipment and other minimal impact suppression techniques would be followed in the Bennett Peak WSA. Initial attack by the BLM is essential in timber communities on Shirley Mountain because the fire suppression capabilities of local firefighting forces could be quickly exceeded. Further, there are some areas with steep slopes and limited access. The BLM would attempt to contain each wildland fire to 5 acres or less at least 90 percent of the time.

Fire frequency is low in most of the area near Seminoe and Pathfinder reservoirs. Along travel routes and in high recreation use areas most fires are human-caused.

Fire frequency is high in the Bennett Peak WSA (greater than six fires per township) and moderate on Shirley Mountain (with three to five fires per township). Most fires have been small, less than 3 acres, and are caused by lightening strikes.

The opportunity for using prescribed fire near Seminoe and Pathfinder reservoirs is limited because of heavy recreational use. The opportunity for using prescribed fire in the Bennett Peak WSA is limited to about 250 to 500 acres per decade. However, in the vicinity of Shirley Mountain, there is considerable potential for using prescribed fire to improve watershed condition, livestock forage, and wildlife habitat, and for hazardous fuels reduction.

The desired burn acreage is about 1,200 per decade. A maximum of 1,000 acres is proposed for prescribed burns per decade.

Area 11: Platte Valley and Baggs Big Game Crucial Winter Range

The resource management objectives for these areas—consisting largely of shrub, upland shrub, and woodland vegetative communities—are to increase browse and provide thermal hiding cover for mule deer and elk, enhance forage for livestock use, create mixed-age stands of sagebrush and upland shrub, and reduce juniper and sagebrush encroachment into other vegetative communities.

In the Platte Valley, BLM would practice full suppression with no heavy equipment on initial attack. This is because of intermingled landownership and is pursuant to a protection exchange agreement with the Medicine Bow National Forest. About 75 percent of the fires in the Platte Valley are human-caused. Naturally-caused wildland fires in the Baggs crucial winter range would be managed under an appropriate management response. However, full suppression would be practiced in juniper woodland crucial winter habitat areas along the Colorado-Wyoming state line. The BLM would attempt to contain each wildland fire to less than 10 acres 90 percent of the time.

Fire frequency is low in the Platte Valley to moderate along the national forest boundary. In the Baggs area, fire frequency is also low and most fires do not exceed 10 acres. One exception is the juniper woodland along the Colorado-Wyoming state line where fire frequency is moderate to high.

The desired burn acreage is about 50,000 per decade to enhance wildlife habitat. Most of this will be accomplished with prescribed burns. Many shared-cost projects are under development. Partnerships would be pursued with the Wyoming Game and Fish Department (WGFD), the Rocky Mountain Elk Foundation (RMEF), grazing lessees, and others. Shrub communities in the Baggs big game crucial winter range are the areas of heaviest prescribed fire use in the Rawlins District.

Other fuel management opportunities include the use of herbicides for sagebrush thinning. These treatments are preferred over prescribed burning because of the potential spread of rabbitbrush after fire. Herbicide treatments are planned to involve about 1,000 acres per year.

Area 12: Checkerboard Public Lands in Carbon and Sweetwater Counties; Intermingled Public Lands in Albany and Laramie Counties

The resource management objectives for these areas—consisting of grassland, shrub, and woodland vegetation—are to maintain or improve watershed conditions, wildlife habitat, and livestock forage. Other objectives are to reduce juniper, limber pine, and sagebrush encroachment and to stimulate aspen regeneration.

These areas would be subject to full suppression of wildland fires because the public lands are scattered or intermingled with nonfederal lands. Suppression would be coordinated through assistance agreements with the counties and other federal agencies. Public lands range from less than 10 percent of the surface in Laramie County and the eastern two-thirds of Albany County to approximately 50 percent in Carbon and Sweetwater counties. These areas also support considerable oil and gas development and a major travel route. Periodically, smoke along highways could be a risk to public safety. The BLM, through the counties, other federal agencies, and volunteer fire departments would attempt to contain each wildland fire to 5 acres or less at least 90 percent of the time.

Fire frequency in Albany and Laramie counties is uncertain since most wildland fires are suppressed by the counties. Fire frequency in Carbon and Sweetwater counties varies from moderate to high along travel routes and near oil and gas fields and is low elsewhere.

The desired burn acreage is about 60,000 per decade. Most of this would be accomplished with prescribed burns.

Area 13: Public Lands Near Medicine Bow National Forest (Laramie Peak Area)

The resource management objectives for this area—consisting largely of upland shrub, woodland, and timber vegetative communities—are to reduce juniper, limber pine, and sagebrush encroachment, stimulate aspen regeneration, and improve bighorn sheep habitat.

Wildland fires on public lands would be subject to full suppression until hazardous fuels from snags and insect infestations have been reduced through prescribed fire, mechanical, and other methods. At that time, an appropriate management response to naturally-caused wildland fires would be instigated. Full suppression would be practiced in high visibility and high-use recreation areas and on steep slopes that are limited to foot access. The BLM would attempt to contain wildland fire to less than 5 acres 90 percent of the time until hazardous fuels are reduced.

Fire frequency is high. The desired burn acreage is about 5,000 per decade. Most of this would be accomplished with prescribed burns.

Area 14: Shirley Basin

The resource management objectives for this area of sagebrush and grasslands are to maintain or improve plant community composition, watershed conditions, forage for livestock grazing, and wildlife habitat.

Naturally-caused wildland fires would be managed under an appropriate management response. Management costs would be reduced by monitoring wildland fires (rather than using full suppression) in areas of consolidated public lands. There would be no restrictions on initial attack (such as restrictions on the use of heavy equipment) in areas where landownership is intermingled. Fire management agreements with private landowners would be pursued. The BLM would attempt to contain each wildland fire to 10 acres 90 percent of the time. [NOTE: How does AMR equate to a 10-acre containment? Seems inconsistent here.]

Fire frequency is low in most of the area. The desired burn acreage is about 10,000 per decade. Most of this would be accomplished with prescribed burns.

Area 15: Ferris Mountains, Pedro Mountains, and Sentinel Rocks

The primary resource management objectives for these areas—consisting largely of shrub, upland shrub, woodland, and timber vegetative communities—are to provide greater visual security for bighorn sheep by creating more openings in the vegetation, increase browse, reduce limber pine encroachment, and improve timber age class diversity. Other objectives are to restore 50 to 75 percent of the public lands in the Ferris Mountains to a mid-seral plant succession stage and to increase browse and provide thermal and hiding cover for mule deer.

Most naturally-caused wildland fires in the Ferris Mountains would receive full suppression, although the use of heavy equipment would be restricted or prohibited. However, fires of less than 100 acres, under low or medium burning conditions, would be monitored rather than being suppressed to reduce costs and achieve resource management objectives. Firefighter safety is a concern in the Ferris Mountains because of steep slopes and moderate to high level of hazardous fuels in lodgepole pine.

In other vegetative communities naturally-caused wildland fires would be subject to appropriate management response to create mixed-age stands of shrub and upland shrub communities. The BLM would attempt to confine each wildland fire to 100 acres 90 percent of the time.

Fire frequency is low in the Ferris Mountains and is moderate in the Pedro Mountains and Sentinel Rocks. The desired burn acreage is about 15,000 per decade. Most of this would be accomplished with prescribed burns.

Area 16: Kinney Rim, Adobe Town, and Skull Creek; and Area 17: Great Divide Basin

The resource management objective for these low precipitation, sparsely vegetated areas is to maintain or improve plant community composition while promoting plant species and age class diversity.

Naturally-caused wildland fires would be managed under an appropriate management response. Management costs would be reduced by monitoring wildland fires (rather than using full suppression) for fires under 1,000 acres. Wildland fire suppression actions would be limited because land status is predominantly public, topography is rolling to flat, access is good, and there are no firefighter safety concerns. The BLM would attempt to contain wildland fires to less than 1,000 acres 90 percent of the time.

Fire frequency is low. The desired burn acreage is about 2,000 per decade for each area. Most of this would be accomplished with prescribed burns.

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Area 18: Green and Crooks Mountains

The resource management objectives for these areas of woodlands and timber are to protect important wildlife habitat including elk winter and calving areas, commercial timber, and public and private property. Fire management in this area is affected by a BLM-administered campground, heavy recreational use, summer cabins, and ranch facilities. There is also a build-up of hazardous fuels from fallen snags and trees killed by insect infestations. Fuels management opportunities include slash burning, light broadcast burning to stop pine invasion into meadows, and timber harvesting.

Full suppression of wildland fires would be practiced, with heavy equipment restricted or prohibited on initial attack. The BLM would attempt to contain wildland fires to less than 5 acres at least 90 percent of the time.

Fire frequency is moderate to high with at least half of the fires being human-caused. The desired burn acreage is about 350 to 500 per decade; 300 acres would be accomplished with prescribed burns.

Area 19: Rattlesnake Hills

The resource management objective for this area of upland shrub and woodlands is to improve elk and deer habitat while limiting surface disturbance related to fire management.

Full suppression of wildland fires would be practiced because of developed private property, especially around Garfield Peak and Goat Mountain, and because there are some areas of hazardous fuels. The use of heavy equipment would be restricted or prohibited on initial attack. A primary safety concern for fire control is difficult access because of steep slopes and locked gates. Some areas have foot access only. The BLM would attempt to contain each wildland fire to less than 10 acres.

Fire frequency is moderate to high and with at least 50 percent being human-caused. The desired burn acreage 350 to 750 per decade; approximately 250 acres are proposed for prescribed burns.

Area 20: South Pass, Red Canyon, and Lander Slope

The resource management objectives for these areas—consisting largely of upland shrub, woodland, and timber vegetative communities—are to enhance elk, moose, and deer habitat, and protect important fisheries.

The BLM would aggressively respond to wildland fires in this area. Full suppression would be practiced with heavy equipment restricted or prohibited on initial attack. These are sensitive areas because of fragile soils, steep slopes, and historic landmarks. Other fire management concerns are intermingled landownership, limited access, and private cabins.

Fire frequency is moderate to high. The desired burn acreage is about 1,000 per decade. Most of this would be accomplished prescribed burns. Some hazardous fuels would be reduced by thinning timber stands of overmature or bug-killed pine, in harvest areas of approximately 100 acres each.

Area 21: Dubois and Upper Wind River

The resource management objective for this area of upland shrub and timber is to enhance wildlife habitat, protect public and private property, and prevent erosion of fragile soils. This area supports nationally important wildlife habitat, consisting of bighorn sheep and elk winter ranges.

Full suppression of wildland fires would be practiced through a protection exchange agreement with the Shoshone National Forest. The purpose would be to reduce hazardous fuels caused by insect infestation and overmature timber. There are also many structures on

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adjacent private lands and high recreational activity.

Fire frequency is low and the fires have been small. There is potential, however, for catastrophic fires because hazardous fuels have built up. The desired burn acreage is about 500 per decade. Most of this would be accomplished with prescribed burns. The reduction of hazardous fuels by fire would require highly controlled circumstances.

Area 22: Sweetwater Valley, Beaver Rim, and Gas Hills

The resource management objectives for these areas—consisting largely of exposed rock and soil, shrub, and scattered woodlands—are to maintain or improve plant community composition and watershed conditions, promote plant species and age class diversity, and improve mule deer habitat. Management costs would be reduced by monitoring small wildland fires, rather than using full suppression.

Naturally-caused wildland fires would be managed under an appropriate management response in most areas. Generally, fires are small and isolated because of a lack of continuous fuels. In the Sweetwater Rocks WSA, restrictions on the use of heavy equipment and other minimal impact suppression techniques would be followed. Firefighting would be restricted to daylight operations because of firefighter safety concerns, steep slopes, and difficult access. In areas of intermingled landownership, full suppression of wildland fires would be practiced if the fires are threatening private lands and no agreements are in place with the landowners allowing for less aggressive attack. The BLM would attempt to contain each wildland fire to 10 acres 90 percent of the time.

Fire frequency is low. In the Beaver Rim and Gas Hills areas, most fires do not exceed 50 acres and are suppressed by Fremont County.

The desired burn acreage is about 5,000 per decade. Most of this would be accomplished with prescribed burns, particularly in the Beaver Rim and Gas Hills areas.

Area 23: Copper Mountain

The resource management objective for this area of juniper and limber pine woodlands is to protect public and private property and big game crucial winter range.

Full suppression of wildland fires would be practiced. The use of heavy equipment would be restricted or prohibited because of intermingled landownership and steep slopes creating difficult access. (Many private lands are developed with cabins and homesites.) The BLM would attempt to confine wildland fires to 1 acre at least 90 percent of the time.

Fire frequency is low with most fires being lightening-caused and small, however, the potential for larger fires exists. The desired burn acreage is 300 per decade. Approximately 200 acres are proposed for prescribed burns.

Area 24: Whiskey Mountain

The resource management objectives for this area of upland shrub and high-elevation timber are to protect and enhance wildlife habitat and protect public and private property, while preventing erosion of unstable and fragile soils. Timber communities have high levels of hazardous fuels because of insect infestations and overmature timber.

Wildland fires would be subject to full suppression. No heavy equipment would be used on initial attack because of fragile soils, the importance of this area for recreation, and to protect important wildlife habitat, particularly for bighorn sheep. Most of the area is public land with rolling or steep topography. Many areas are difficult to access, creating concerns for firefighter safety. The BLM would attempt to confine wildland fires to 1 acre at least 90 percent of the time.

Although fire frequency is low and most fires have been limited to single trees or shrubs, the potential for catastrophic fire exists because hazardous fuels have built up in some places. The desired burn acreage is about 250 per decade. Approximately 200 acres are proposed for prescribed burns.

Area 25: Public Lands in Crook, Weston, and Niobrara Counties

The majority of the land in these counties is in nonfederal ownership. Where public lands are scattered and isolated, resource management objectives would conform to those of the adjacent nonfederal lands.

The vegetation is primarily grass and sagebrush with some noncommercial ponderosa pine. Full suppression of wildland fires would be practiced on public lands. Fires in the area are usually suppressed by county and volunteer fire departments. The BLM provides resource advisors and suppression assistance pursuant to annual operating plans with the counties. Restrictions or prohibitions on the use of heavy equipment would be followed, primarily to avoid damage to nonfederal lands.

Area 26: Black Hills Area

The public lands in the northeast part of the state contain forested and woodland areas, some bordering the Black Hills National Forest—Devils Tower National Monument is in this area. The vegetation is primarily grass, sagebrush, bur oak, juniper, aspen, and ponderosa pine with five areas supporting commercial timber production.

The resource management objectives on BLM-administered commercial forestlands are to reduce fuel loading, dispose of logging debris, and prepare seedbeds for reforestation. On other public lands in the Black Hills area, resource management objectives conform to those of the adjacent nonfederal lands.

Ponderosa pine is the primary fuel in the commercial forestlands. There are benefits to be derived from wildland and prescribed fires in meeting management objectives for these areas. However, all wildland fires would be suppressed to protect commercial timber and adjacent lands which are not administered by BLM. Prescribed fires would be designed to dispose of logging debris and reduce understory and hazardous fuels.

Fires in the area are usually suppressed by county and volunteer fire departments. The BLM provides resource advisors and suppression assistance pursuant to annual operating plans with the counties. Fire suppression in an area east of Newcastle, which borders the Black Hills National Forest, is subject to a protection agreement with the Forest Service. Restrictions or prohibitions on the use of heavy equipment would be followed, primarily to avoid damage to commercial forestlands administered by BLM, and adjacent private, state, national forest, and national monument lands.

Area 27: Whoopup Canyon

The resource management objective for this area—consisting largely of sagebrush, grassland, and ponderosa pine—is to protect prehistoric petroglyphs of world class importance. All wildland fires would be suppressed. Restrictions or prohibitions on the use of heavy equipment to construct firelines and on the use of chemical and dye retardants would be followed to protect the petroglyphs. Fuels management projects would be conducted to reduce hazardous fuels near the petroglyphs. Primarily, these projects would be mechanical treatments but may include the use of prescribed fire involving less than 50 acres per decade.

Fires are common in the Whoopup Canyon and general area. Large fires have threatened the canyon and petroglyphs in recent years.

Area 28: Public Lands in Converse, Goshen, Natrona, and Platte Counties

The majority of the land in these counties is in nonfederal ownership. Where public lands are scattered and isolated, resource management objectives would conform to those of the adjacent nonfederal lands. Vegetation is primarily sagebrush and grass with small areas of upland shrub, woodland, and ponderosa pine. Naturally-caused wildland fires would be managed under an appropriate management response unless the fires threaten to burn onto adjacent nonfederal lands. Roads and natural barriers would be used for control lines as much as possible. Restrictions or prohibitions on the use of heavy equipment would be followed to avoid damage to the nonfederal lands. Full suppression would be practiced on the Table Mountain and the Springier wildlife management areas in Goshen County, in bald eagle roost areas in Converse and Natrona counties, and in the Goldeneye Recreation Area in Natrona County. In the bald eagle roost areas, cutting of roost trees would be prohibited. Restrictions or prohibitions on the use of heavy equipment would be followed on significant segments of the Oregon, Mormon, and Bozeman trails.

Where prescribed fire is used on public lands to manage vegetation, particularly in sagebrush and grassland areas, the purpose would be to improve watershed condition, forage for livestock grazing and wildlife use, and to reduce hazardous fuels.

Area 29: Laramie Range and Rattlesnake Mountains

This area consists of public lands in the Laramie Range and Rattlesnake Mountains, including Casper Mountain, Haystack Mountain, Muddy Mountain, and Pine Mountain in Converse, Natrona, and Platte counties. The resource management objectives for this area—consisting largely of sagebrush, grassland, upland shrub (mountain mahogany), woodland, lodgepole pine, ponderosa pine, and aspen—are to maintain or improve watershed conditions, wildlife habitat, livestock forage, and reduce hazardous fuels. Naturally-caused wildland fires would be managed under an appropriate management response unless the fires threaten to burn onto adjacent nonfederal lands. Roads and natural barriers would be used for control lines as much as possible. Restrictions on some suppression techniques would be followed in areas of bald eagle roosts, primarily the prohibition of cutting roost trees.

In the Rattlesnake Mountains, any wildland fires threatening the cabin sites known as Aspen Highlands would be suppressed.

Prescribed fires would be used primarily for disposing of logging debris and seedbed preparation, and improving wildlife habitat.

Approximately 2,000 acres are proposed for prescribed burns on Haystack Mountain per decade.

Area 30: Jackson Canyon

The resource management objectives for this area—consisting largely of sagebrush, grassland, woodland, lodgepole pine, and ponderosa pine—are to protect a bald eagle winter roosting area, enhance other wildlife habitat, and provide forage for livestock grazing. Naturally-caused wildland fires would be managed under an appropriate management response unless the fires threaten to burn onto adjacent nonfederal lands. Roads and natural barriers would be used for control lines as much as possible.

Full suppression would be practiced on public lands on Casper Mountain because of concentration of cabins, residences, recreational areas, and communication sites on intermingled nonfederal lands. Restrictions or prohibitions on the use of heavy equipment and other minimal impact suppression techniques would be followed to avoid damaging steep slopes and nonfederal lands. The cutting of eagle roost trees would be prohibited.

Prescribed fire or mechanical treatments of vegetation would be emphasized.

Area 31: Muddy Mountain Environmental Education Area

This area on Muddy Mountain consists of two campgrounds and an environmental education area with hiking trails. The resource management objectives for this area, which includes a significant number of beetle-killed lodgepole pines, is to use prescribed fire and mechanical treatments to reduce hazardous fuels and logging debris, and to protect public and private property and recreational opportunities. The area is surrounded by private and state land. Because of high recreational use and intermingled landownership, wildland fires would be aggressively suppressed. Priority would be given to public safety and protecting recreational facilities.

Area 32: Public Lands in Johnson, Sheridan, and Campbell Counties

The majority of the land in these counties is in nonfederal ownership. Where public lands are scattered and isolated, resource management objectives would conform to those of the adjacent nonfederal lands. Wildland and prescribed fires are generally desired where public landownership is relatively consolidated. Resource management objectives for this area—consisting largely of sagebrush and grassland with small areas of woodland and ponderosa pine—are to improve forage for livestock and wildlife and provide for plant species and age class diversity.

Naturally-caused wildland fires would be managed under an appropriate management response, unless the fires threaten to burn onto adjacent nonfederal lands. Roads and natural barriers would be used for control lines as much as possible.

In the Cantonment Reno historic site, wildland fires would be managed to reduce sagebrush cover and expose land features and artifacts. Restrictions or prohibitions on the use of heavy equipment and other minimal impact suppression techniques would be followed.

The Fortification Creek WSA contains 12,419 acres with vegetation consisting largely of sagebrush, grassland, woodland, and ponderosa pine. It is being managed to protect or enhance wilderness values and has a fire management plan in effect which specifies that all fires would be suppressed. Priority would be given to keeping fires from spreading onto adjacent private or state lands. Restrictions or prohibitions on the use of heavy equipment and other minimal impact suppression techniques would be followed.

Prescribed fire would be used in the WSA and adjacent lands, primarily to maintain or improve watershed conditions, wildlife habitat, and livestock forage. Approximately 2,000 acres are proposed for prescribed burns per decade.

Area 33: Eastern Bighorn Mountains

The resource management objective for this area—consisting largely of sagebrush, grassland, upland shrub (primarily curl-leaf mountain mahogany), woodland, lodgepole pine, ponderosa pine, and aspen—is to maintain or improve watershed conditions, wildlife habitat, and forage for grazing.

Naturally-caused wildland fires would be managed under an appropriate management response, using roads and natural barriers for control lines as much as possible, unless the fires threaten to burn onto adjacent nonfederal lands. Full suppression of wildland fires threatening the Buffalo Creek and Grave Spring campgrounds would be practiced.

Prescribed fires would be used for a number of reasons such as disposal of logging debris, reduction of hazardous fuels, and to meet the management objectives mentioned above. Partnerships for the use of prescribed fire would be pursued with the Wyoming Game and Fish Department, the Rocky Mountain Elk Foundation, grazing lessees, and others.

The North Fork and Gardner Mountain WSAs are located in close proximity to each other in the southern Bighorn Mountains. The North Fork WSA comprises 10,089 acres and the Gardner Mountain WSA 6,423 acres. Both areas are being managed to protect wilderness values and each has a fire management plan in effect which specifies that all fires would be suppressed. Priority would be given to keeping fires from spreading onto adjacent private or state lands. Restrictions or prohibitions on the use of heavy equipment and other minimal impact suppression techniques would be followed.

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In the eastern Bighorn Mountains approximately 2,000 acres are proposed for prescribed burns per decade.

Area 34: Northern Campbell County and Bishop Area

The resource management objective for this area—consisting largely of sagebrush, grassland, and ponderosa pine—is to manage vegetation for grazing, wildlife habitat, and timber production.

Naturally-caused wildland fires would be managed under an appropriate management response, unless the fires threaten to burn onto adjacent nonfederal lands. Roads and natural barriers would be used for control lines as much as possible.

Area 35: Warren Bridge

The primary resource management objective for this area—consisting largely of sagebrush, grassland, aspen, riparian areas, and meadow tundra—is to improve big game winter and transitional ranges, pronghorn antelope spring, summer, and fall range, and sage grouse habitat. Other objectives are to improve forage availability in the uplands to draw livestock use away from riparian areas, sustain aspen communities by reducing conifer and sagebrush encroachment, and stimulate aspen regeneration. Emphasis would be placed on protecting private and public property from wildland fire by reducing hazardous fuels in the urban interface (for example, Hoback Ranches and Black Butte Estates) and along national forest boundaries. Post-burn archaeological inventories would be conducted.

There are intermingled private lands in the area. Developed and semideveloped campsites, such as those along the Green River and the Warren Bridge campground would be protected from wildland fire. Wildland fires would be aggressively suppressed within 1 mile of the Franz Elk Feedground operated by the WGFD. Smoke in subdivisions and along U.S. Highway 189-191 may pose public safety hazards.

The BLM would attempt to confine or contain wildland fires to about 400 acres. The desired burned acreage is about 4,000 per decade.

Area 36: Beaver Ridge

The primary resource management objective for this area—consisting largely of sagebrush, grassland, aspen, riparian areas, and meadow tundra—is to improve big game winter ranges. Other objectives are to improve livestock forage availability in the uplands and protect private property by reducing hazardous fuels in the urban interface.

Concerns related to wildland fire suppression include intermingled landownership and the urban interface.

The BLM would attempt to confine or contain wildland fires to about 200 acres. The desired burned acreage is about 2,000 per decade.

Area 37: Cora Butte

The resource management objectives for this area—consisting largely of sagebrush, grassland, mesic upland shrubs, and riparian areas—are to promote plant species and age class diversity and maintain or improve watershed conditions by using periodic wildland fire and prescribed burning as management tools.

Concerns related to wildland fire suppression include intermingled landownership and some concentrated areas of developed private property. Smoke may pose public safety hazards, for example near communities and subdivisions, and along U.S. Highway 191.

The BLM would attempt to confine or contain wildland fires to about 200 acres. The desired burn acreage is about 1,500 per decade.

Area 38: Pinedale

The primary resource management objective for this area—consisting largely of sagebrush, grassland, aspen, and forest-dominated riparian

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areas—is to improve big game winter and transitional ranges. Other objectives are to improve livestock forage availability in the uplands and protect public and private property by reducing hazardous fuels in the urban interface and along national forest boundaries.

There is a limited amount of public land in this area, intermingled with developed private property and urban interface. Smoke may pose public safety hazards in the city of Pinedale and surrounding subdivisions and along U.S. Highway 191. An air quality and acid rain monitoring station (NADP site) east of Fremont Lake would be protected from wildland fire.

The BLM would attempt to confine or contain wildland fires to about 200 acres. The desired burn acreage is about 3,000 per decade and it is anticipated that the majority of this would be accomplished by the use of prescribed fire. A priority area for prescribed burns would be along the national forest boundary.

Area 39: Ryegrass and Soaphole Basin

The primary resource management objective for these areas—consisting largely of sagebrush, grassland, aspen, and riparian areas--is to improve big game winter and transitional ranges, pronghorn antelope spring, summer, and fall range, and sage grouse habitat. Another objective is to improve livestock forage palatability and availability in upland areas. Native American sensitive sites in the west half of the area need to be protected.

Most of the lands in this area are public with rolling topography and good access for fire management. Smoke may pose public safety hazards in the community of Daniel and along U.S. Highway 189.

The BLM would attempt to confine or contain wildland fires to about 1,500 acres. The desired burn acreage is about 9,000 per decade and the majority would be accomplished with prescribed fire.

Area 40: Mesa

The resource management objectives for this area—consisting largely of sagebrush, grassland, and forest-dominated riparian areas—are to maintain or improve sagebrush and grassland plant community composition while using prescribed burns and periodic wildland fires to improve crucial mule deer winter range and sage grouse habitat. The Mocroft Native American sensitive sites in the northeastern portion of the area need to be protected. Wildland fires would be aggressively suppressed in cottonwood stands along the Green and New Fork rivers to protect wildlife habitat, and recreational and scenic values.

Most of the lands in this area are public with rolling topography and good access for fire management. Smoke may pose public safety hazards in the city of Pinedale and surrounding subdivisions and along U.S. Highway 191, and cause visibility problems at the Pinedale Airport. There are also flammable materials at the airport.

The BLM would attempt to confine or contain wildland fires to about 1,000 acres outside of crucial mule deer winter ranges, and about 500 acres within the winter ranges. The desired burn acreage is about 5,800 per decade.

Area 41: Boulder Lake and Big Sandy

The primary resource management objectives for these areas—consisting largely of Douglas fir, aspen, lodgepole pine, sagebrush, grassland, shrub, forest-dominated riparian areas, exposed rock and soil, and mesic upland shrub communities—are to reduce conifer and sagebrush encroachment into aspen communities, promote healthy timber regeneration, maintain or improve wildlife habitat and livestock forage, and protect cultural resources. Other objectives are to protect public and private property by reducing hazardous fuels in the urban interface and along national forest boundaries.

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In the Scab Creek WSA and on the Lander Cutoff/Emigrant Trail, restrictions on the use of heavy equipment and other minimal impact suppression techniques would be followed. Fire retardant drops would be prohibited within 200 feet of riparian and wetland areas in the WSA, however emergency use of helicopters would be acceptable. Wildland fires would be aggressively suppressed within 1 mile of the Fall Creek, Scab Creek, and Muddy Creek elk feedgrounds operated by the WGFD.

This area is primarily timbered, with steep slopes and limited vehicle access. Intermingled private lands and potentially significant historic cabins are other concerns. Smoke may pose public safety hazards in subdivisions and along Wyoming Highway 351.

The BLM would attempt to confine or contain wildland fires to about 650 acres in sagebrush and grassland communities, 400 acres in aspen, and 100 acres in timber (where fuel levels are low) during low to moderate burning conditions. The desired burn acreage is about 5,000 per decade. Prescribed burns could be used to reduce hazardous fuels along the national forest boundary.

Area 42: Bench Corral

The primary resource management objective for this area—consisting largely of sagebrush, grassland, shrub-dominated riparian areas, exposed rock and soil, mixed grass prairie, aspen, limber pine, woodland, and lodgepole pine—is to improve big game winter and transitional ranges, pronghorn antelope spring, summer, and fall range, and sage grouse habitat. Other objectives are to improve livestock forage availability in upland areas, sustain aspen communities by reducing conifer and sagebrush encroachment, and stimulate aspen regeneration through the use of fire.

There is a high potential for significant historic cabins in the west half of this area. Wardell buffalo trap is located in the southeast corner and is a significant Native American site. This area and its interpretive facilities would be protected from wildfire. Wildland fires would be aggressively suppressed within 1 mile of the North Piney and Bench Corral elk feedgrounds operated by the WGFD.

Landownership in this area is primarily public with rolling topography and good access for fire management. Along the Lander Cutoff/Emigrant Trail, restrictions on the use of heavy equipment and other minimal impact suppression techniques would be followed. Smoke may pose public safety hazards in the communities of Big Piney and Marbleton, along U.S. Highway 189, and cause visibility problems at the Big Piney/Marbleton Airport. There are also flammable materials at the airport

The BLM would attempt to confine or contain wildland fires to about 2,000 acres west of U.S. Highway 189 and to 500 acres east of U.S. Highway 189. The desired burn acreage is about 20,000 per decade. Approximately 9,000 acres are proposed for prescribed burns per decade.

Area 43: Deer Hills

The resource management objectives for this area—consisting largely of desert shrub, sagebrush, aspen, shrub-dominated riparian areas, mixed grass prairie, lodgepole pine, and whitebark pine—are to improve big game winter and transitional ranges and sage grouse habitat, and improve livestock forage availability in the uplands.

There are oil and gas facilities in the area which need protection from wildfire and may affect firefighter safety. The topography is rolling and access is good. Smoke may pose public safety hazards in and near the communities of Big Piney and Marbleton and along U.S. Highway 189. Along the Lander Cutoff/Emigrant Trail, restrictions on the use of heavy equipment and other minimal impact suppression techniques would be followed.

The BLM would attempt to confine or contain wildland fires to about 1,000 acres outside of crucial mule deer winter ranges, and about 500 acres within the winter ranges. The desired burn acreage is about 4,000 per decade.

Area 44: Desert

The resource management objectives for this area—consisting largely of exposed rock and soil desert shrub, sagebrush, grassland, mixed grass prairie, aspen, shrub-dominated riparian areas, and forest-dominated riparian areas—are to maintain sagebrush and grassland plant community composition and maintain or improve watershed conditions. Prescribed burns and wildland fires would be used to meet the management objectives listed above and to maintain or improve wildlife habitat and livestock forage.

The topography is mostly flat, access is good, and landownership is predominantly public. Oil and gas facilities in the area would require protection from wildland fire and may affect firefighter safety. Along the Lander Cutoff/Emigrant Trail, restrictions on the use of heavy equipment and other minimal impact suppression techniques would be followed. Wildland fires would be aggressively suppressed in cottonwood stands along the Green and New Fork rivers to protect wildlife habitat, and recreational and scenic values.

The BLM would attempt to confine or contain wildland fires to about 1,200 acres. The desired burn acreage is about 20,000 per decade.

Area 45: LaBarge

The primary resource management objectives for this area—consisting largely of exposed rock and soil, sagebrush, grassland, woodland, aspen, forest-dominated riparian areas, whitebark pine, and meadow tundra—are to maintain or improve wildlife habitat and livestock forage, sustain aspen communities by reducing conifer and sagebrush encroachment, and stimulate aspen regeneration through the use of fire. Another objective would be to promote healthy timber regeneration. Emphasis would also be placed on protecting important cultural sites.

There is a high potential for significant historic cabins in this area. Lake Mountain WSA, Rock Creek ACEC, and Beaver Creek ACEC contain crucial Colorado River cutthroat trout habitat. Restrictions on the use of heavy equipment and other minimal impact suppression techniques would be followed in these areas. Similar restrictions would apply along the Lander Cutoff/Emigrant Trail.

Recreational activity in the area is high, especially during hunting season. There is also a significant amount of oil and gas activity and fire management is complicated by intermingled private lands. Smoke may pose public safety hazards in or near Big Piney, Marbleton, Calpet, or LaBarge and along U.S. Highway 189. Wildland fires would be aggressively suppressed in cottonwood stands along the Green River to protect wildlife habitat and recreational and scenic values. Wildland fires would be aggressively suppressed on the Holden Hill and Names Hill cultural sites.

The BLM would attempt to confine or contain wildland fires to about 1,200 to 1,500 acres in aspen, sagebrush, and grassland communities outside of crucial mule deer winter ranges, about 500 acres in these same communities within crucial mule deer winter ranges, and about 100 acres in timber. The desired burn acreage is about 27,000 per decade.

Area 46: Big Sandy and Steamboat Mountain

The primary resource management objectives for these areas—consisting largely of greasewood, desert shrub, sagebrush, riparian, and conifer vegetative communities—are to reduce conifer and sagebrush encroachment into aspen and mountain shrub communities, promote healthy timber regeneration, and improve habitat for big game and sage grouse. Other objectives are to improve forage for livestock and wild horses and to protect public and private property by reducing hazardous fuels in the urban interface and near BLM-administered recreation areas and range improvements. In portions of the fire management area that are predominantly BLM-administered lands (north of the checkerboard area), wildland

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and prescribed fire could be used to meet resource management objectives.

Steamboat Mountain contains unique vegetative communities and high value wildlife habitat. The Steamboat Mountain vegetative communities include associations of sagebrush with Utah snowberry and basin wildrye, bluebunch wheatgrass, and lemon scurf pea. In these communities, the primary resource management objective is to protect wildlife habitat. Generally, wildland fire is not desired in the Steamboat Mountain area, although there may be opportunities for the use of prescribed fire.

These fire management areas contain historic trails, special recreation management areas, and six ACECs: Steamboat Mountain, Natural Corrals, Cedar Canyon, White Mountain Petroglyphs, Greater Sand Dunes, and the South Pass Historic Landscape. Four WSAs are entirely or partially inside the areas. The WSAs are Whitehorse Creek, Oregon Buttes, Buffalo Hump, and Sand Dunes. There are also important scenic resources (Class II VRM areas).

Restrictions on the use of heavy equipment and other minimal impact suppression techniques would be followed in ACECs, WSAs, and along historic trails. Restrictions on the use of chemical and dye retardants would be followed in the vicinity of petroglyphs.

Fire frequency has been moderate with 27 fires recorded in 10 years. These fires burned about 860 acres.

The BLM would attempt to confine or contain wildland fires to less than 5 acres in the Steamboat Mountain area because of the important wildlife habitat. The use of prescribed fire would be the preferred method to meet resource management objectives.

Overall, up to a quarter of the public lands in these fire management areas could be burned per decade to achieve resource management objectives.

Area 47: Sweetwater

The resource management objectives for this area—consisting largely of sagebrush, riparian, aspen, and conifer vegetative communities—are to protect sensitive resources, improve wildlife habitat and forage for livestock, reduce conifer and sagebrush encroachment into aspen and mountain shrub communities, promote healthy timber regeneration, and protect public and private property by reducing hazardous fuels.

The area contains sensitive resources including two ACECs (one for special status plants and another for the South Pass Historic Landscape), special recreation management areas, and wild and scenic river values. These areas will have site-specific fire management prescriptions based on site-specific analysis. The use of heavy equipment and motorized vehicles for fire management would be restricted or prohibited in sensitive areas. This area borders the Bridger-Teton National Forest. Recreational activity in the area is high and takes place year-round Landownership is intermingled. Some private cabins and ranches are located in the area, along with developed and semi-developed recreation sites, like those along the Sweetwater River. These areas containing public and private property would be protected from wildland fire.

Fire frequency is low to moderate with five fires recorded in 10 years. These fires burned about 26 acres.

The area has a low to moderate fire frequency, but there are opportunities for wildland and prescribed fire to meet resource management objectives. Overall, up to a quarter of the public lands in this fire management area could be burned per decade to achieve the objectives.

Area 48: Red Desert

The resource management objectives for this area—consisting largely of greasewood, desert shrub, sagebrush, riparian, and aspen vegetative communities—are to improve wildlife habitat, improve forage for livestock and wild horses, reduce conifer and sagebrush encroachment into aspen and mountain shrub communities, and promote healthy timber regeneration.

The area includes some checkerboard lands, major utilities, oil and gas fields, and a one wild horse herd management area. Five WSAs and one ACEC are entirely or partially in the area. These are Honeycomb Buttes, Oregon Buttes, South Pinnacles, Alkali Basin/East Sand Dunes, and Red Lake WSAs and the Oregon Buttes ACEC. Separate fire management plans may be written for the WSAs. Portions of the ACEC having significant wildlife habitat or cultural values may be protected from wildland fire. Restrictions on the use of heavy equipment and other minimal impact suppression techniques would be followed in the WSAs and ACEC. Constraints to protect watershed and scenic values would apply too.

Fire frequency is low with two fires recorded in 10 years. These fires burned about 31 acres.

Overall, up to a quarter of the public lands in this fire management area could be burned per decade to achieve resource management objectives. Generally, prescribed fire would be used.

Area 49: Little Mountain

The resource management objectives for this area—consisting largely of desert shrub, sagebrush, riparian, aspen, and conifer vegetative communities—are to improve wildlife habitat, improve forage for livestock and wild horses, reduce conifer and sagebrush encroachment into aspen and mountain shrub communities, promote healthy timber regeneration, and protect public and private property by reducing hazardous fuels.

This fire management area contains urban interface including the communities of Rock Springs and Green River and their surrounding residential areas, Table Rock, McKinnon, and Lonetree. The area also contains checkerboard lands, major utility rights-of-way, and oil and gas fields. Interstate 80 and U.S. Highways 191, 430, and 530 traverse the area. There are large blocks of BLM-administered lands.

The Flaming Gorge National Recreation Area, administered by the Forest Service, borders this fire management area along with the Wasatch-Cache and Ashley National Forests. There are three WSAs within this fire management area. These are Devils Playground/Twin Buttes, Red Creek, and Adobe Town. There are also three ACECs: Pine Springs, Greater Red Creek, and a portion of the Candidate Plant ACEC. The objectives for the Pine Springs ACEC include maintaining or enhancing important cultural, historic, and prehistoric values. Objectives for Greater Red Creek include maintaining or enhancing fragile soils, Colorado River cutthroat trout habitat, and water quality. The objectives for the Candidate Plant ACEC include maintaining or enhancing plant species and their habitats.

Three other special management areas also exist in this area. They are Monument Valley, Pine Mountain, and Sugarloaf Basin. The primary objective for Monument Valley is to protect wildlife, geologic, cultural, watershed, and scientific values. The primary objective for the Pine Mountain and Sugarloaf Basin areas is to improve watershed condition, as well as to provide opportunities for dispersed recreation and protect wildlife habitat.

Much of the timber in the Little Mountain fire management area is located within the Pine Mountain and Sugarloaf Basin management areas. Fire management, including suppression needs and the use of prescribed fire in timber stands, will be determined on a case-by-case basis. The objectives would be to ensure that timber stands are maintained in a healthy condition and the "snow fence" effect created by the timber is preserved.

Recreational use in the area is high. There are also important scenic resources (Class II VRM areas) along with petroglyphs, historic trails, and two wild horse herd management areas. Smoke in cities and towns and along major highways may pose public safety hazards.

The area contains portions of the checkerboard land pattern, urban interface, major utility rights-of-way, and oil and gas fields. Full suppression of wildland fires would be practiced. Constraints applied to fire management activities would include watershed constraints and providing protection of conifer stands and ACEC values. Restrictions on the use of heavy equipment and other minimal suppression techniques would be followed in areas such as the Greater Red Creek ACEC, Pine Springs ACEC, candidate plant species sites and ACEC, and the other special management areas including Monument Valley, Pine Mountain, and Sugarloaf Basin. Similar restrictions would apply along historic trails and in the WSAs. Restrictions on the use of chemical and dye retardants would be followed in the vicinity of petroglyphs.

The fire frequency is very high with 234 fires recorded in 10 years. These fires burned about 6,250 acres.

This area has the highest fire frequency in the state and opportunities exist for wildland and prescribed fire to meet resource management objectives. Overall, up to a quarter of the public lands in this fire management area could be burned per decade to achieve resource management objectives.

Area 50: Smiths Fork and Raymond Mountain

The resource management objectives for these areas—consisting largely of sagebrush, grassland, aspen, and conifer vegetative communities—are to improve elk birthing habitat and big game winter and transitional habitat, improve upland forage availability, reduce conifer and sagebrush encroachment in aspen and mountain shrub communities, and stimulate aspen and mountain shrub regeneration. In the Raymond Mountain WSA and ACEC areas another resource management objective is to enhance the habitat of the Bonneville cutthroat trout.

In the Raymond Mountain area the use of heavy equipment and motorized vehicles for fire management would be restricted or prohibited to preserve wilderness values and trout habitat. A separate fire management plan would be written for this area. Fire management activities adjacent to the Bridger-Teton National Forest would be coordinated with the Forest Service. Recreational use of these areas is high.

Two important areas need protection from wildland fire. These are the Canyon Club, and the ski area and lodge on Pine Creek. Concerns associated with controlling livestock may require burned areas to be fenced, so these areas can recover.

The fire frequency is low to moderate with eight fires recorded in 10 years. These fires burned about 860 acres.

Overall, up to a quarter of the public lands in these areas could be burned per decade to achieve resource management objectives.

Area 51: Hams Fork and Rock Creek

The resource management objectives for these areas—consisting largely of sagebrush with scattered aspen and conifer stands—are to improve elk birthing habitat and big game winter and transitional habitat, improve sage grouse habitat, improve upland forage availability, reduce conifer and sagebrush encroachment in aspen and mountain shrub communities, and stimulate aspen and mountain shrub regeneration.

Full suppression of wildland fires would be practiced in areas of intermingled landownership, although some opportunities may exist to use roads and natural barriers for control lines depending on what resources are threatened. In particular, wildland fires would be suppressed in the area east of South Fork Mountain where private lands are being subdivided and developed into cabin sites. Fire management activities near Fossil Butte National Monument would be coordinated with the National Park Service. Fire could be used to meet resource management objectives where public lands predominate.

Fire frequency is moderate with 19 fires recorded in 10 years. These fires burned about 3,300 acres.

Overall, up to a quarter of the public lands in this fire management area could be burned per decade to achieve resource management objectives.

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Area 52: Green River and Seedskadee

The resource management objective for these areas—consisting largely of greasewood, sagebrush, grassland, and riparian vegetative communities—is to enhance wildlife winter habitat.

Considerable oil and gas exploration and development takes place adjacent to the Seedskadee National Wildlife Refuge and there are intermingled private and BLM-administered lands which complicate fire management activities.

Fire frequency is low with only one fire recorded in 10 years. That fire burned less than an acre.

To protect public and private property, full suppression of wildland fires would be practiced in oil and gas fields and in areas of intermingled landownership. The desired burn area is about 5 percent of the public lands per decade in this fire management area.

Area 53: Slate Creek

The resource management objective for this area—consisting largely of greasewood, sagebrush, and grassland—is to enhance wildlife habitat.

Fire frequency is low with only one fire recorded in 10 years. This fire burned less than an acre.

Full suppression would be practiced in this area because of the large amount of oil and gas development. The desired burn area is about 5 percent of the public lands per decade, in this fire management area. Prescribed fire could be used to improve wildlife winter range and sage grouse habitat.

Area 54: Bridger Valley and Granger

The resource management objective for these areas of desert shrub, greasewood, sagebrush, and grassland is to enhance wildlife habitat. The areas include checkerboard lands, Interstate 80, oil and gas fields, and major utility rights-of-way.

Fire frequency is low to moderate with no fires recorded in the Bridger Valley area in 10 years, and four fires occurring in the Granger area. These fires burned about 800 acres.

Full suppression of wildland fire would be practiced in these areas because of the intermingled landownership pattern and the oil and gas activities. The desired burn area is about 5 percent of the public lands per decade. Prescribed fire could be used to improve wildlife winter range and sage grouse habitat.

Area 55: Bear River Divide

The resource management objectives for this area—consisting largely of greasewood, sagebrush, grassland, aspen, and mountain shrub vegetative communities—are to improve big game winter and transitional habitat, improve sage grouse habitat, improve upland forage availability, reduce conifer and sagebrush encroachment in aspen and mountain shrub communities, and stimulate aspen and mountain shrub regeneration.

Oil and gas development (including releases of sour gas, or H_2S) is common throughout the area. The area also includes checkerboard lands, Interstate 80, and major utility rights-of-way. Although full suppression of wildland fire is practiced now, there is potential to work with private landowners to identify areas where wildland and prescribed fire could be managed.

The community of Evanston and its airport are in this area. Visibility around the airport may be affected by smoke, posing safety concerns.

Fire frequency is low to moderate with eight fires recorded in 10 years. These fires burned about 5,700 acres.

Generally, full suppression of wildland fires would be practiced in this area because of the intermingled landownership and large amount of oil and gas development. However, opportunities

may exist, especially on the eastern side of the continental divide, to let fires burn to roads and other natural barriers depending on what resources are threatened. In the future, it may be possible to manage some areas under appropriate management response.
Overall, up to a quarter of the public lands in this fire management area could be burned per decade to achieve resource management objectives.

Area 56: Collett Creek and Twin Creek

The resource objectives for these areas—consisting largely of sagebrush, grassland, aspen, and mountain shrub vegetative communities—are to enhance crucial wildlife winter and transitional habitat, increase forage for livestock, improve watershed condition, and rejuvenate aspen and mountain shrub communities. The Twin Creek area includes a coal mine and a subdivision which would be protected from wildland fire. Wildland and prescribed fire would be used elsewhere to meet resource management objectives.

Fire frequency is low to moderate with three fires recorded in 10 years. These fires burned about 1,640 acres.

Overall, up to a quarter of the public lands in this fire management area could be burned per decade to achieve resource management objectives. Up to 50,000 acres would be treated with prescribed fire by the year 2005.

Area 57: Meeks Cabin

The resource management objectives for this area—consisting largely of sagebrush, grassland, aspen, and conifer vegetative communities—are to enhance wildlife habitat and improve watershed condition.

Fire frequency is low with one fire recorded in 10 years. That fire burned less than an acre.

Generally, wildland fires would be suppressed in this area although there are areas where wildland fire would be desired to meet resource management objectives. The BLM would manage some naturally-caused wildland fires subject to appropriate management response. Overall, up to a quarter of the public lands in this fire management area could be burned per decade to achieve resource management objectives.

Area 58: Afton and Evanston

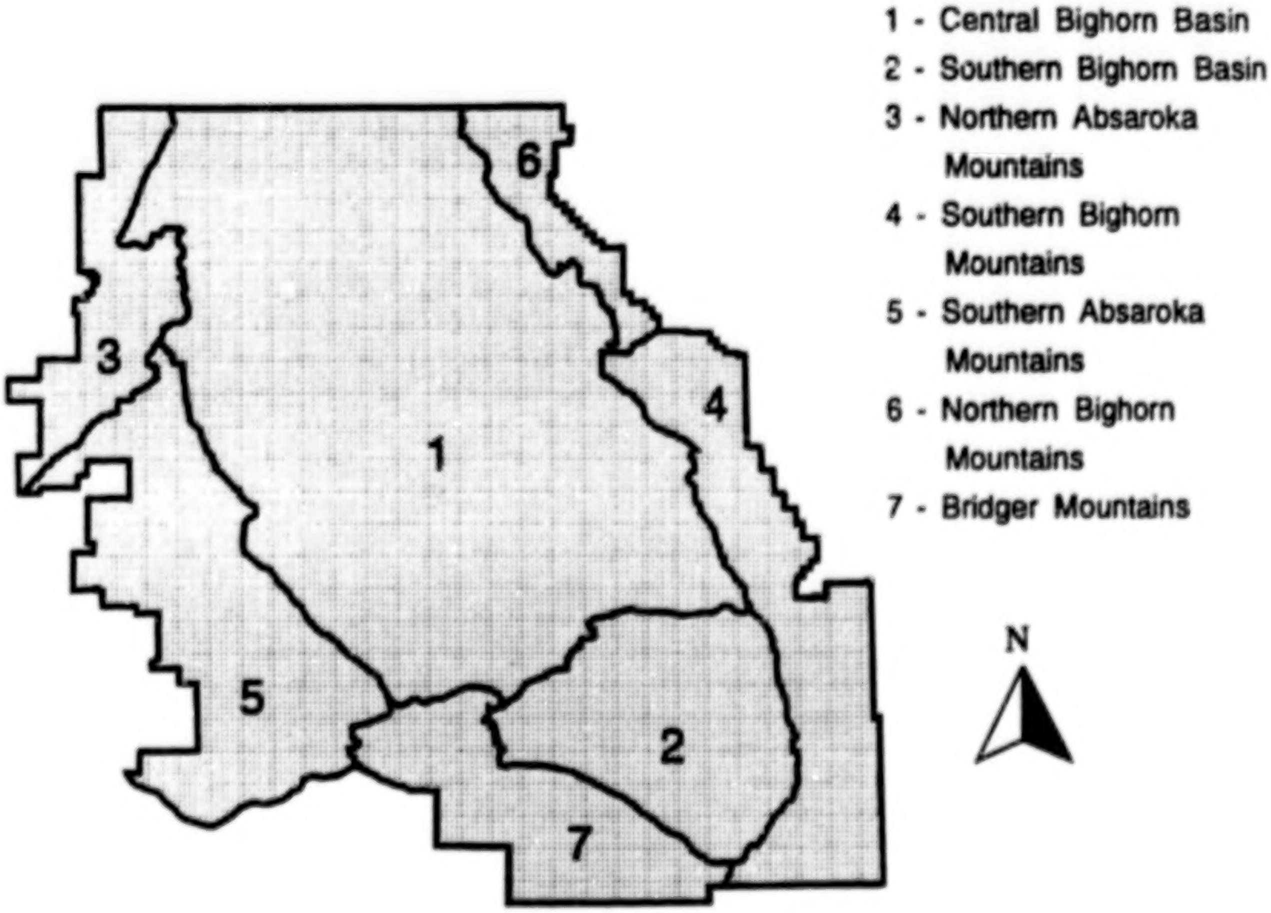
The resource management objectives for these areas of sagebrush and grass are to improve wildlife habitat and promote plant species and age class diversity.

The areas include checkerboard lands, Interstate 80, oil and gas fields, and major utility rights-of-way.

Fire frequency is low with four fires recorded in 10 years. These fires burned about 150 acres.

Generally, wildland fires would be suppressed in this area. The desired burn area is about 5 percent of the public lands in this fire management area per decade.

Fire Management Areas Administered by the Worland and Cody Field Offices


1 - Central Bighorn Basin
2 - Southern Bighorn Basin
3 - Northern Absaroka Mountains
4 - Southern Bighorn Mountains
5 - Southern Absaroka Mountains
6 - Northern Bighorn Mountains
7 - Bridger Mountains
N
1
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5
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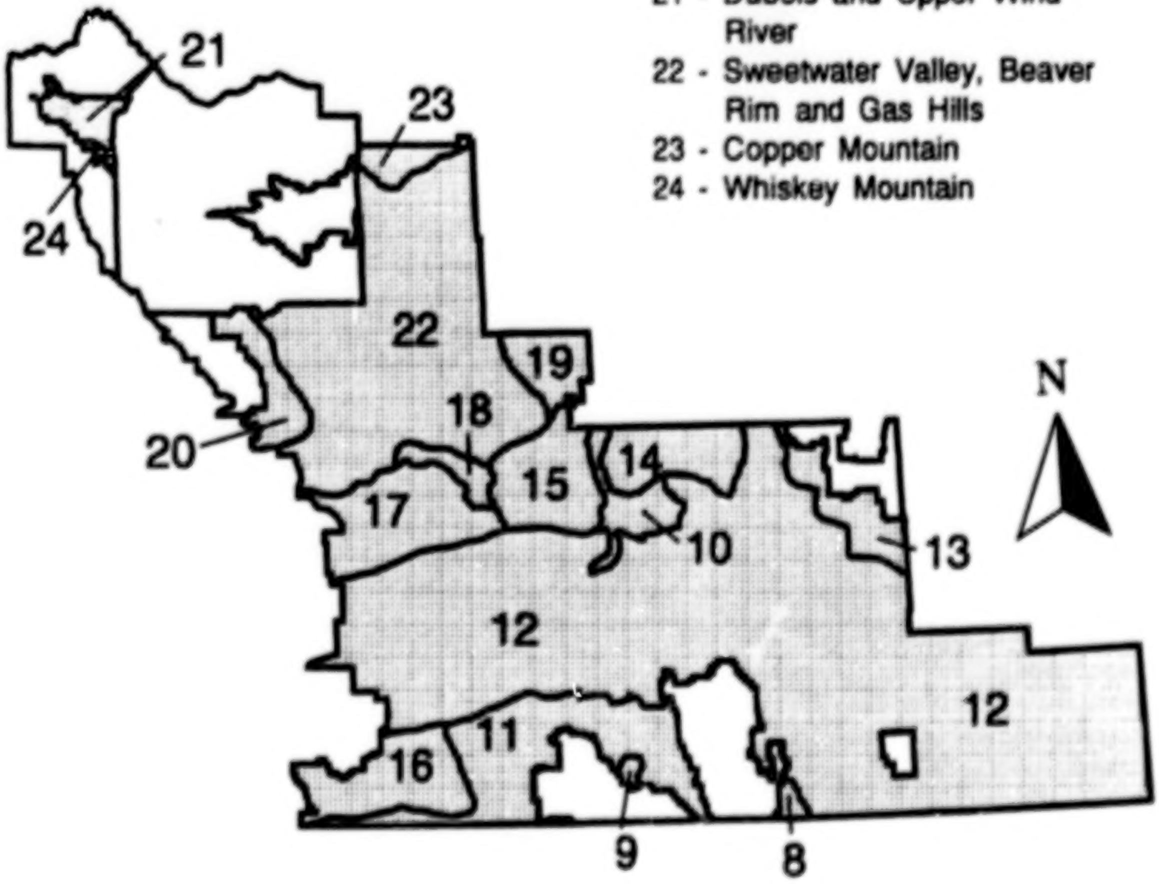
7

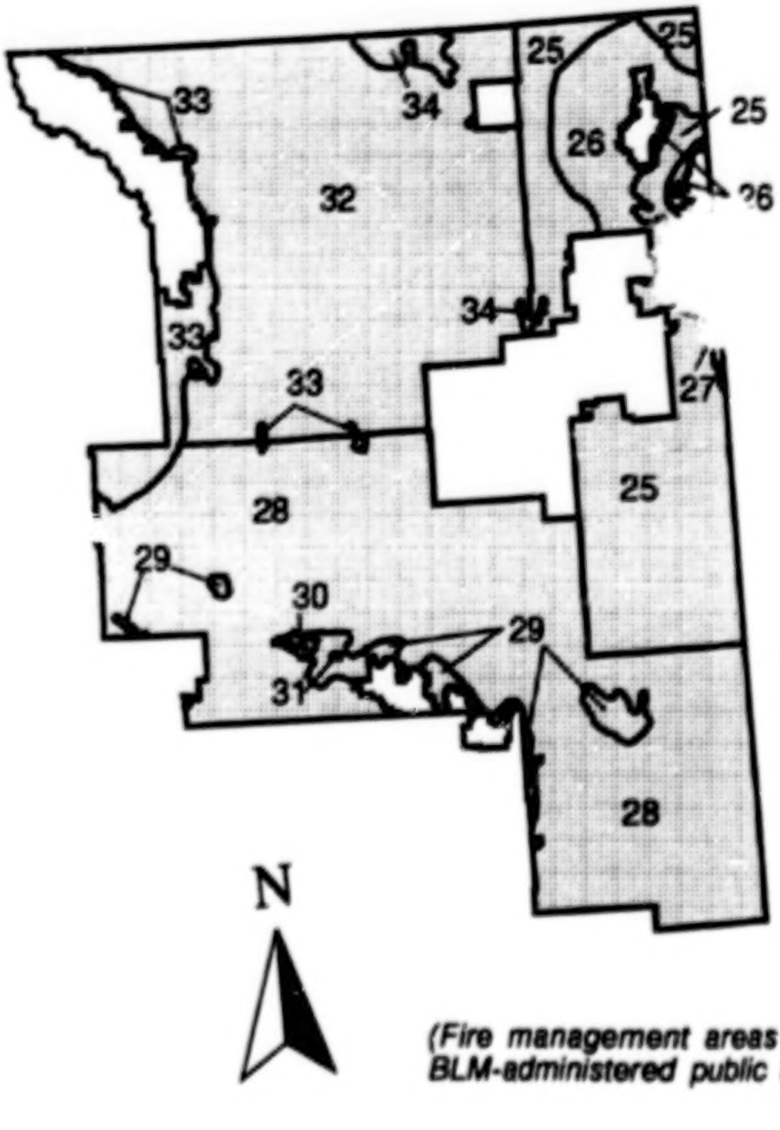
Fire Management Areas Administered by the Rawlins and Lander Field Offices

(Fire management areas consist of BLM-administered public lands in the shaded areas only.)

8 - Woods Landing, Jelm and Sheep Mountains
9 - Encampment Canyon WSA
10 - Seminoe and Shirley Mountains
11 - Platte Valley and Baggs Crucial Winter Range
12 - Checkerboard and Intermingled Lands
13 - Laramie Peak Area
14 - Shirley Basin
15 - Ferris Mountains, Pedro Mountains and Sentinel Rocks
16 - Kinney Rim, Adobe Town and Skull Creek
17 - Great Divide Basin
18 - Green and Crooks Mountains
19 - Rattlesnake Hills
20 - South Pass, Red Canyon and Lander Slope
21 - Dubois and Upper Wind River
22 - Sweetwater Valley, Beaver Rim and Gas Hills
23 - Copper Mountain
24 - Whiskey Mountain



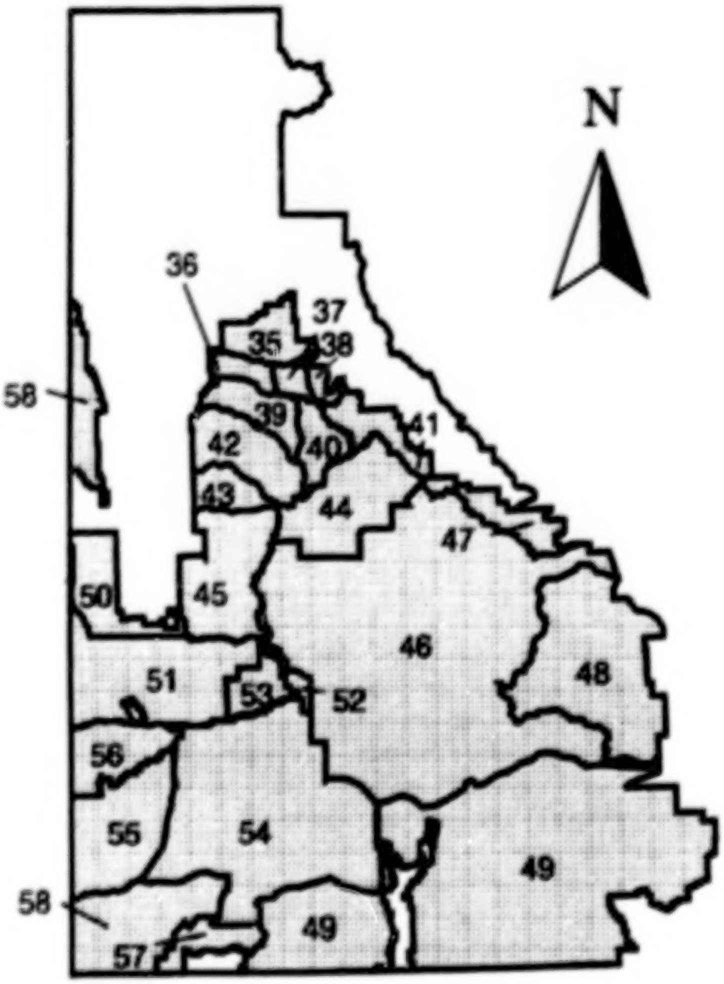
Fire Management Areas Administered by the Casper, Buffalo, and Newcastle Field Offices



- 25 - Crook, Weston, and Niobrara Counties
  - 26 - Black Hills
  - 27 - Whoopup Canyon
- 28 - Converse, Goshen, Natrona, and Platte Counties
  - 29 - Laramie Range and Rattlesnake Mountains
  - 30 - Jackson Canyon
  - 31 - Muddy Mountain Environmental Education Area
- 32 - Johnson, Sheridan, and Campbell Counties
  - 33 - Eastern Bighorn Mountains
  - 34 - Northern Campbell County and Bishop Area

(Fire management areas consist of BLM-administered public lands in the shaded areas only.)

Fire Management Areas Administered by the Rock Springs, Kemmerer, and Pinedale Field Offices



35 - Warren Bridge
36 - Beaver Ridge
37 - Cora Butte
38 - Pinedale
39 - Ryegrass and Soaphole
40 - Mesa
41 - Boulder Lake and Big Sandy
42 - Bench Corral
43 - Deer Hills
44 - Desert
45 - LaBarge
46 - Big Sandy
47 - Sweetwater
48 - Red Desert
49 - Little Mountain
50 - Smiths Fork and Raymond Mountain
51 - Hams Fork and Rock Creek
52 - Green River and Seedskadee
53 - Slate Creek
54 - Bridger Valley and Granger
55 - Bear River Divide
56 - Collett Creek and Twin Creek
57 - Meeks Cabin
58 - Afton and Evanston

(Fire management areas consist of BLM-administered public lands in the shaded areas only.)

GLOSSARY

Appropriate Management Response (AMR) -- Specific actions taken in response to a naturally-occurring wildland fire to implement protection and fire use objectives, while considering firefighter and public safety, anticipated management costs, resource values at risk, resource benefits, threats to private property, opportunities for reducing hazardous fuels, and political and social concerns. Appropriate management response would involve a wide range of fire management options. These might include confining or containing a wildland fire so it stays within a predetermined boundary, or aggressively and quickly suppressing the fire.

biological diversity: The variety of life and its processes. Although vastly complex, it includes some measurable distinctions like genetic differences within and among species, species variations, association of species with each other and their environments, and the patterns and linkages of these biological communities across geographic areas. (Keystone Center 1991.) According to West (1993) "biological diversity is the variety of life and its process, including the variety of living organisms, the genetic differences among the, the communities, the ecosystems, and landscapes in which they occur, plus the interactions of these components. Some [authorities] would add the local peoples, their culture, and their 'indigenous knowledge' to the list...."

browse: The part of the current leaf and twig growth of shrubs, woody vines, and trees available for animal consumption.

forage for big game and livestock: Browse and herbaceous foods that are available to grazing animals.

Bureau of Reclamation-withdrawn (BOR-) lands: A withdrawal is actions that restrict the use of public lands and segregate the land from the operation of some or all of the public lands and/or mineral laws. Withdrawals are also used to transfer jurisdiction of management to other Federal agencies, in this case, to the Bureau of Reclamation.

crucial winter range: Winter habitat that a wildlife species depends upon for survival, especially during severe winter weather conditions. Alternative habitat areas would be very limited or unavailable because of severe weather conditions or other limiting factors.

desired burn acreage: The maximum acreage of public land that could be burned per decade by prescribed and wildland fire to meet resource management objectives.

full suppression: A strategy for extinguishing fires that require immediate and continuous aggressive attack in the safest, most cost-effective manner, with the least amount of property damage or resources lost. Full suppression may include control, containment, or confinement of a wildfire to meet land management objectives.

initial attack: An aggressive suppression action consistent with firefighter and public safety and values to be protected.

prescribed fire: Any fire ignited by management actions to meet specific objectives. A written, approved prescribed fire plan must exist, and National Environmental Policy Act (NEPA) requirements must be met prior to ignition.

prescription: Measurable criteria which guide selection of appropriate management response and actions. Prescription criteria may include safety, economic, public health, environmental, geographic, administrative, social or legal considerations.

public lands: Any land or interest in lands owned by the United States and administered by the Secretary of the Interior through the Bureau of Land Management, except lands located on the outer Continental Shelf and lands held for the benefit of Indians, Aleuts, and Eskimos. (43 CFR 1601.0-5)

visual resource management (VRM): The planning and implementation of management objectives for maintaining scenic values and visual quality on public lands. Visual resource management classes determine the amount of change that would be allowed to basic elements of the lands scape. One (of the five) VRM classes is identified in this document, Class II. In Class II areas, changes in basic elements (form, line, color, texture) of the landscape can be evident but must remain subordinate to the existing landscape.

wildfire: Any unwanted wildland fire.

wildland fire: Any nonstructure fire, other than prescribed fire, that occurs in the wildland.

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GLOSSARY OF TERMS

Active preference: The currently authorized livestock grazing use on public lands in an allotment, measured in animal unit months (AUMs) of forage.

Actual use: The total grazing use estimated to have taken place, measured in animal unit months (AUMs) of forage annually.

Allotment: An area of land designated and managed for livestock grazing. An allotment may include intermingled private, state, public, and other federally administered lands that are administered for grazing. The number of livestock and period of use are stipulated for each allotment. An allotment may consist of several pastures or may be only one pasture.

Allotment categorization: The grouping of livestock allotments into the categories "M" (maintain current condition), "I" (improve current condition), or "C" (manage custodially while protecting existing resource values). The criteria that determine the allotment categorization are described in Appendix G in the first draft document.

Animal unit month (AUM): The amount of forage needed to sustain one cow and calf pair, five sheep, or one horse for one month.

Authorized officer: Any employee of the Bureau of Land Management to whom has been delegated the authority to make the final, binding decision or take specific action, or both, as an official representing the United States Government. Such authority has legal base in statute or regulation.

Avoidance area: An area designated to be avoided due to some resource value that may become damaged or detracted from if development activities were allowed. Examples of an avoidance area may be a recreation site or known cultural site. An area may also be an avoidance area if some hazard exists such as a landslide area. The area may not be totally unavailable but should be avoided if possible.

Biological diversity: Biological diversity is the variety of life and its processes. Although vastly complex, it includes some measurable distinctions like genetic differences within and among species, species variations, associations of species with each other and their environment, and the patterns and linkages of these biological communities across geographical areas (Keystone Center 1991).

Inventory, monitoring, research, data management, and information sharing are needed for understanding the elements of biological diversity that exists in the Newcastle planning area.

There is a need to identify biologically diverse areas and conserve their richness of plan and animal species. The Federal Land Policy and Management Act mandates inventory of the public lands and the use of inventories in management. According to the Keystone Center, BLM's multiple-use management of public lands promotes biological diversity because, under this management, a variety of ecological stages of habitat are developed and maintained, each with its particular plant and animal communities. Also, the variety of landscapes and habitat types making up the public lands provides naturally for biological diversity.

The BLM policy requires that habitats be managed with emphasis on biological communities and natural systems to ensure self-sustaining populations and an abundance and diversity of wildlife, fish, and plant resources on the public lands; and that rare, vulnerable, and representative habitats, plant and animal communities, and natural systems be conserved. The Newcastle RMP EIS considered the effects of the alternatives on biological diversity by using the evaluation of habitat as a starting point.

Carrying capacity: The maximum number of animals that can be sustained on a given area without damaging vegetation or related resources. Carrying capacity of a given area may vary from year to year because of fluctuating forage production, which is primarily due to differing amounts of precipitation.

Category 2C species: A species of plant or animal showing evidence of survival vulnerability, in which the evidence of vulnerability is not sufficient to support listing of the plant or animal as threatened or endangered.

Conservation for future use: This category is reserved for any unusual cultural resource which, because of scarcity, a research potential that surpasses the current state of the art, singular historic importance, cultural importance, architectural interest, or comparable reasons, is not currently appropriate for consideration as the subject of scientific or historical study that would result in its physical alteration. A cultural property or location included in this category is considered worthy of segregation from all other land or resource uses that would threaten the maintenance of its present condition or setting. It will remain in this use category until specified provisions are met in the future.

Crucial winter range: Winter habitat on which a wildlife species depends for survival. Because of severe weather conditions or other limiting factors, no alternative habitat would be available.

GLOSSARY OF TERMS

Discharged use: Cultural sites may be assigned to this category when they were previously qualified for assignment to any of the other categories but no longer possess the qualifying characteristics for that use or for assignment to an alternative use. Sites may also be assigned to discharge use when the cultural property's scientific use potential was so slight that it was exhausted at the time the property was recorded and no alternative use is deemed appropriate.

Diversity: The relative abundance of wildlife species, plant species, plant communities, and habitats in an area. Ecosystem and ecosystem management: An ecosystem is an intricate group of organisms within their environmental communities, working as an ecological unit or natural system. Plants and animals, including humans, are a part of this dynamic process of living and nonliving interaction. The BLM's mission is to efficiently manage these ecosystems.

Ecosystem management is a process that considers the total environment. It requires the skillful use of ecological, economic, social, and managerial principles in managing ecosystems to produce, restore, or sustain ecosystem integrity and desired conditions, uses, products, values, and services over the long term. Management of individual components of ecological systems for immediate needs is tempered or expanded to responsible management centered on long-term goals and objectives targeted to the entire ecological system. The principles of ecosystem management, used in BLM's day-to-day management of the public lands and resources, include recognition that people and their social and economic needs are an integral part of ecological systems. It is consistent with the BLM's mission and direction under the FLPMA and it is supported by other laws guiding the BLM's mission.

Effective ecosystem management will be incorporated into implementation of the Grass Creek RMP, into site-specific implementation plans, and into daily management decisions.

Forage: All browse and herbaceous foods that are available to grazing animals.

Forb: A flowering plant whose above-ground stem does not become woody and is not grass or grasslike.

Full suppression: A strategy for extinguishing fires that requires immediate and continuous aggressive attack in the most cost-effective manner, with the least amount of property damage or resources loss. Full suppression may include control, containment, or confinement of a wildfire to meet land management objectives.

Functional-at-risk: Riparian/wetland condition is functional, but soil, water, and/or vegetation make the area susceptible to degradation.

Grazing preference: The total number of animal unit months (AUMs) of livestock grazing on public lands apportioned and attached to base property owned or controlled by a permittee or lessee.

Interdisciplinary: Characterized by participation or cooperation among two or more disciplines or fields of study.

Limited suppression: A fire strategy used when full control of a fire is extremely difficult or when resource values do not warrant the expense associated with full suppression.

Management use: This category is applied to any cultural property considered most useful for controlled experimental study that would result in its physical alteration, to be conducted by the BLM or other entities concerned with the management of cultural properties.

Monitoring: The orderly collection, analysis, and interpretation of resource data to evaluate progress toward meeting resource management objectives.

Nonmotorized mechanical transport: Any device for moving people or material in or over land, water, snow, or air that has moving parts, and that is powered by a living or nonliving power source. This includes, but is not limited to, sailboats, hang gliders, parachutes, bicycles, game carriers, carts, and wagons. The term does not include wheelchairs when used as necessary medical appliances, nor does it include skis, snowshoes, nonmotorized river craft, sleds, travois, or similar primitive devices without moving parts.

No surface occupancy (NSO): The term "no surface occupancy" is used in two ways. It is used in one way to define a no surface occupancy area where no surface-disturbing activities of any nature or for any purpose would be allowed. For example, construction or the permanent or long-term placement of structures or other facilities for any purpose would be prohibited in an NSO area.

The other way the "no surface occupancy" term is used is as a stipulation or mitigation requirement for controlling or prohibiting selected land uses or activities that would conflict with other activities, uses, or values in a given area. When used in this way, the NSO stipulation or mitigation requirement is applied to prohibit one or more specific types of land and resource development activities or surface uses in an area, while other—perhaps even similar—types of activities or uses (for other purposes) would be allowed. For example, protecting important rock art relics from destruction may require closing the area to the staking of mining claims and surface mining, off-road vehicle travel, construction or long-term placement of structures or pipelines, power lines, general purpose roads, and livestock grazing. Conversely, the construction of fences to protect rock art from vandalism or from trampling or breakage by livestock, an access road or trail, and other visitor facilities to provide interpretation and opportunity for public enjoyment of the rock art would be allowed. Further, if there were interest in development of leasable minerals in the area, leases for oil and gas, coal, and so forth, could be issued with a "no surface occupancy" stipulation or mitigation requirement for the rock art site, which would still allow access to the leasable minerals from adjacent lands and underground.

The term "no surface occupancy" has no relationship or relevance to the presence of people in an area.

Off-road vehicle (ORV): Any motorized vehicle capable of, or designed for, travel on or immediately over land, water, or other natural terrain, excluding: (1) any nonamphibious registered motorboat; (2) any military, fire, emergency, or law enforcement vehicle while being used for emergency purposes; (3) any vehicle whose use is expressly authorized by the authorized officer, or otherwise officially approved; (4) vehicles in official use; and, (5) any combat or combat support vehicle when used in times of national defense emergencies (43 CFR 8340.0-5).

Off-road vehicle (ORV) management designations: Designations apply to all off- road vehicles regardless of the purposes for which they are being used. Emergency vehicles are excluded. The ORV designation definitions have been developed in cooperation with representatives from the US Forest Service, US Park Service, and BLM state and field office personnel. BLM recognizes the differences between off-road vehicles and over-the-snow vehicles in terms of use and impact. Therefore, travel by over-the-snow vehicles will be permitted off existing routes and in all open or limited areas (unless otherwise specifically limited or closed to over-the-snow vehicles) if they are operated in a responsible manner without damaging the vegetation or harming wildlife.

Closed. Vehicle travel is prohibited in the area. Access by means other than motorized vehicle is permitted.

Open. Vehicle travel is permitted in the area (both on and off roads) if the vehicle is operated responsibly in a manner not causing, or unlikely to cause, significant undue damage to or disturbance of the soil, wildlife, wildlife habitat, improvements, cultural, or vegetative resources or other authorized uses of the public lands.

Limited

a. Vehicle travel is permitted only on existing roads and vehicles routes which were in existence prior to the date of designation in the *Federal Register*. Vehicle travel off of existing vehicle routes is permitted only to accomplish necessary tasks and only if such travel does not result in resource damage. Random travel from existing vehicle routes is not allowed. Creation of new routes or extensions and/or widening of existing routes is not allowed without prior written agency approval.

b. Vehicle travel is permitted only on roads and vehicles routes designated by BLM. In areas where final designation has not been completed, vehicle travel is limited to existing roads and vehicle routes as described above. Designations are posted as follows:

   1. Vehicle route is open to vehicular travel.

   2. Vehicle route is closed to vehicular travel.

c. Vehicle travel is limited by number or type of vehicle. Designations are posted as follows:

   1. Vehicle route is limited to four-wheel drive vehicles only.

   2. Vehicle route is limited to motorbikes only.

   3. Area is closed to over-the-snow vehicles.

d. Vehicle travel is limited to licensed or permitted use.

e. Vehicle travel is limited to time or season of use. Posted:

   Seasonal closure to all motor vehicles (the approximately dates of closure are indicated).

f. Where specialized restrictions are necessary to meet resource management objectives, other limitations also may be developed.

   Posted: Recreational ORV play area.

Potential natural community: The community that would become established if all successional sequences were completed without interferences by man under the present environmental conditions. This term is synonymous with climax community.

Prescribed fire: The skillful application of fire (by planned or unplanned ignition) to wildland fuels in either their natural or modified state under specified conditions to allow the fire to burn in a predetermined area while producing the fire behavior required to achieve certain management objectives.

Prevention of significant deterioration (PSD): The process incorporated in the Clean Air Act which places emission limitations on specified new or modified sources. PSD regulations are intended to limit deterioration of air quality that is currently cleaner than national ambient air quality standards.

Proper functioning condition: Riparian/wetland areas are functioning properly when adequate vegetation, landform, or large weedy debris is present to dissipate stream energy associated with high water flows thereby reducing erosion and improving water quality; filter sediment, capture bedload and air floodplain development; improve floodwater retention and groundwater recharge; develop root masses that stabilize streambanks against cutting action; develop diverse ponding and channel characteristics to provide the habitat and the water depth, duration, and temperature necessary for fish production, waterfowl breeding, and other uses; and support greater biodiversity. The functioning condition of riparian/wetland areas is a result of interaction among geology, soil, water, and vegetation.

Public land: Any land or interest in lands owned by the United States and administered by the Secretary of the Interior through the Bureau of Land Management, except lands located on the outer Continental Shelf and lands held for the benefit of Indians, Aleuts, and Eskimos. (43 CFR 1601.0-5)

Public use: This category is applied to any cultural property found to be appropriate for consideration as an interpretive exhibit in place, a subject of supervised participation in scientific or historical study, or related educational and recreational uses by members of the general public.

Range condition: The existing state of range vegetation in an area described in comparison to the climax (natural potential) plant community for that area. It is an expression of the relative degree to which the kinds, proportions, and amounts of plants in a plant community resemble that of the climax plant community. Range condition is rated as: potential natural--more than 75% of the vegetation is in a climax state; later seral—51% to 75% of the vegetation is climax; mid seral—26% to 50% is climax; and, early seral—less than 26% of the vegetation is climax.

Range improvement: Any activity or program on or relating to rangelands designed to improve production of forage, change vegetation composition, control patterns of use, provide water, stabilized soil and water conditions, or provide habitat for livestock or wildlife. Range improvement projects may be fences, reservoirs, brush control, or spring and well developments.

Range site: A distinctive kind of rangeland that differs from other kinds of rangeland in its ability to produce a characteristic natural plant community. A range site is capable of supporting a plant community that differs from other communities in the kinds of percentages of plant species or in total vegetative production by the community.

Recommended stocking level: The level of livestock use measured in animal unit months (AUMs) recommended in the technical guides produced by the Soil Conservation Service. This recommended level is based on the productivity of individual areas called "range sites" and adjusted by the range condition.

Recreation opportunity spectrum (ROS): A continuum used to characterize recreation opportunities in terms of setting, activity, and experience opportunities. Four of six total classes are represented on BLM-administered public lands in the planning area. These are semiprimitive nonmotorized, semiprimitive motorized, roaded natural and rural.

Rest-rotation: A prescribed pattern of grazing use that provides sequential rest for various parts of the range unit for at least one year.

Riparian habitat: Common usage refers to the green zones along the banks of streams and ponds and such wetlands as springs or wet meadows. Other usage defines it as any area characterized by vegetation dependent on more water than is available to normal upland vegetation. The BLM's usage is "an area of land directly influenced by permanent water. It has visible vegetation or physical characteristics reflective of permanent water influence. Lakeshores and streambanks are typical riparian areas. Excluded are such sites as ephemeral streams or washes that do not exhibit the presence of vegetation dependent on free water in the soil."

Roaded natural: One of the six classes of the recreation opportunity spectrum. Roaded natural areas

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offer about equal recreational opportunities for affiliation with other user groups or isolation from sights and sounds of human activities. Such areas provide the opportunity for visitors to have a high degree of interaction with the natural environment. challenge and risk opportunities are not very important except in specific challenging activities. The practice of outdoor skills may be important. Opportunities for both motorized and nonmotorized recreation are present.

Rural: One of the six classes of the recreation opportunity spectrum. In rural areas, opportunities to experience recreation in affiliation with individuals and groups are prevalent, as is the convenience of recreation sites. These factors generally are more important than the natural setting. Opportunities for wildland challenges, risk taking, and testing of outdoor skills are unimportant except in activities involving challenge and risk.

Season of use: The part of the year in which livestock grazing is authorized on a given range area, as specified in the grazing lease.

Scientific use: This category is applied to any cultural property determined to be suitable for consideration as the subject of scientific or historical study using currently available research techniques, including study that would result in its physical alteration. Inclusion in this category signifies that the property need not be conserved in the face of an appropriate research or data recovery (mitigation) proposal.

Semiprimitive motorized: One of the six classes of the recreation opportunity spectrum. Semiprimitive motorized areas offer some opportunities for isolation from the sights and sounds of human activities, but not as much as with opportunities for semiprimitive nonmotorized recreation. Use of these areas involves the opportunity for visitors to have a high degree of interaction with natural environment, to have moderate challenge and risk, and to use outdoor skills. Such an area provides an explicit opportunity to use motorized equipment while in the area.

Semiprimitive nonmotorized: One of the six classes of the recreation opportunity spectrum. Semiprimitive nonmotorized areas offer opportunities for isolation from the sights and sounds of human activities, but not as much as with opportunities for primitive recreation. Use of these areas involves the opportunity for visitors to have a high degree of interaction with the natural environment, to have moderate challenge and risk, and to use outdoor skills.

Seral stage: The present state of vegetation of a range site in relation to the potential natural community for the site. Vegetation status is the expression of the relative degree to which the kinds, proportions, and amounts of plants in a community resemble those of the potential natural community. The classes are potential natural community, late seral, mid-seral, and early seral.

Sociocultural use: This category is applied to any cultural resource that is perceived by a specified social and/or cultural group as having attributes that contribute to maintaining the heritage or existence of that group.

Surface disturbance (or surface-disturbing activities): The physical disturbance and movement or removal of the land surface and vegetation. it ranges from the very minimal to the maximum types of surface disturbance associated with such things as off-road vehicle travel or use of mechanized, rubberized, or tracked equipment and vehicles; some timber cutting and forest silvicultural practices; excavation and development activities associated with use of heave equipment for road, pipeline, power line and other types of construction; blasting; strip, pit and underground mining and related activities, including ancillary facility construction; gas and oil well drilling and field construction of development and related activities; range improvement project construction; and recreation site construction.

Mitigation of surface-disturbing activities centers around surface reclamation and the control and prohibition of surface uses. Mitigation is associated with concerns for such things as movement of disturbed or denuded soil (by water, air, or gravity); erosion, water quality (sedimentation, salinity pollution); wildlife habitat (vegetative and special, aquatic or terrestrial); vegetative composition, cover of productive capacity (quality, quantity) for consumptive and nonconsumptive uses (grazing, scenic values, watershed stability); surface and subsurface cultural and paleontological values; and other subsurface values (cave or karst systems, aquifers).

Suspended preference: Part of the grazing preference which is temporarily withheld from the currently authorized (active) grazing use, measured in animal unit months (AUMs) of forage

Trend: The direction of change in the condition of health of the range, usually gauged in relation to its natural potential and determined by observation over a period of time.

Utilization: The percentage of forage that has been consumed or destroyed by during a specific period.

Visual resource management (VRM): The planning, design, and implementation of management objectives for maintaining scenic values and visual quality. The system is based on research that has produced ways of assessing aesthetic qualities of the landscape in objective terms. After inventory and evaluation, lands are given relative visual ratings (management classes), which determine the amount of modification allowed to the basic elements of the landscape. Following are the five classes. VRM Class I: This class applies to areas where the objective is to maintain a landscape setting that appears unaltered by man.

VRM Class II: This class applies to areas where the objective is to design proposed alterations so as to retain the existing character of the landscape.

VRM Class III: This class applies to areas where the objective is to design proposed alterations so as to partially retain the existing character of the landscape.

VRM Class IV: This class applies to areas where the objective is to provide for management activities which require major modification of the existing character of the landscape.

VRM Class V: This class applies to areas where the natural character has been drastically altered, and the area requires rehabilitation to upgrade it to one of the above classifications.

Wetland: Defined by the U.S. Fish and Wildlife Service as "areas inundated or saturated by surface or ground water at a frequency and duration sufficient to support and which, under normal circumstances do support a prevalence of vegetation typically adapted for life in saturated soil conditions." The BLM's usage is virtually synonymous with riparian area, but included associated waters such as ponds or streams, and all other wet areas such as springs, wet meadows, bogs, swamps, and sloughs.

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MAPS

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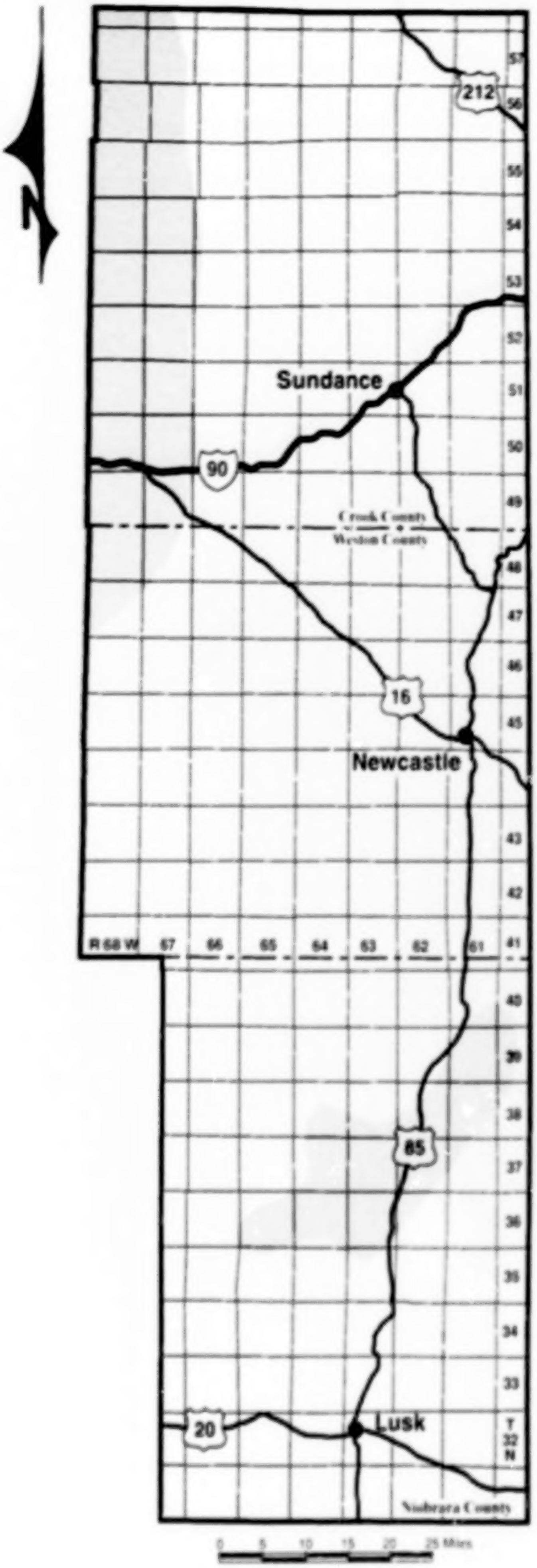
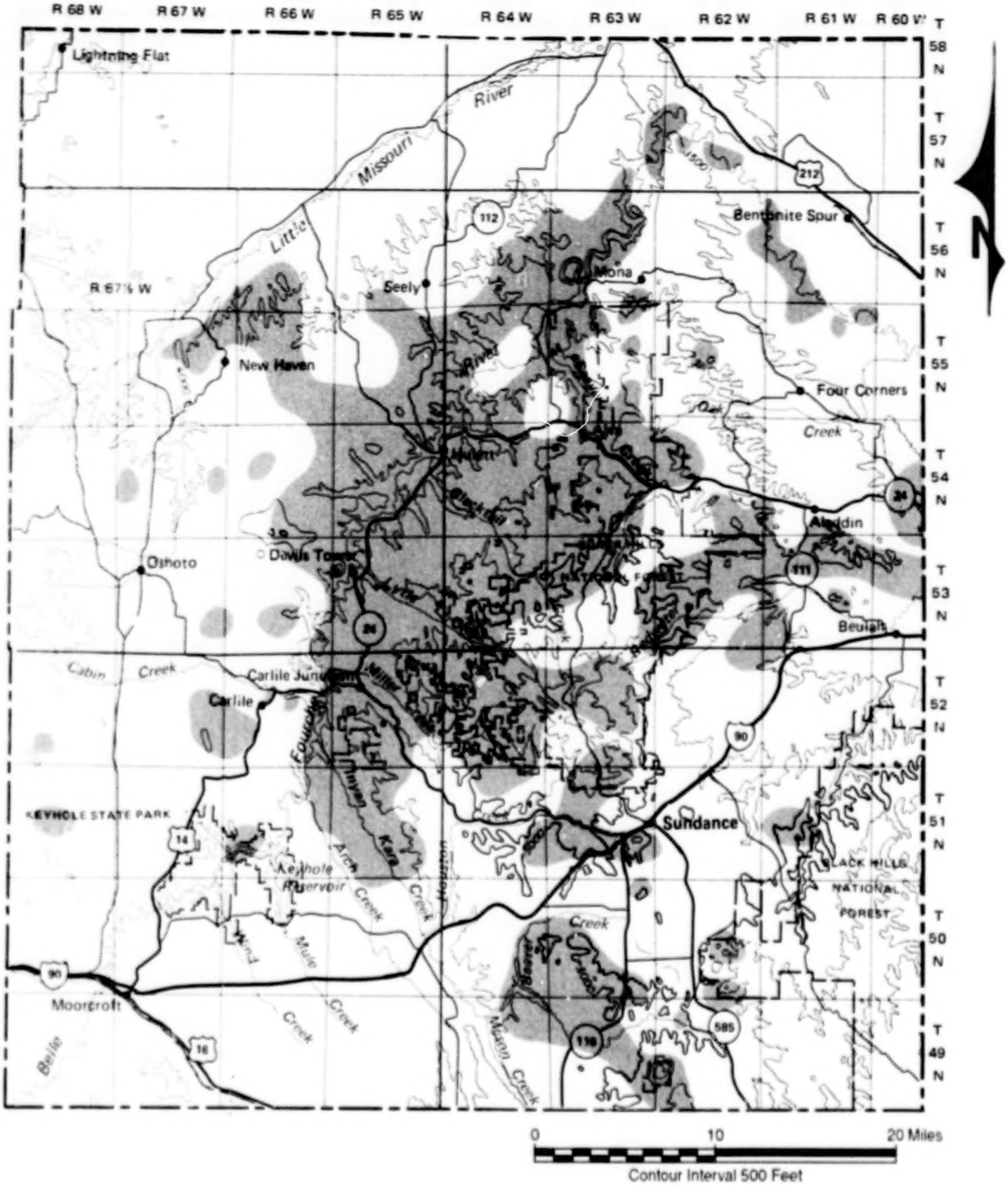


▨ H_2S Hazard Areas

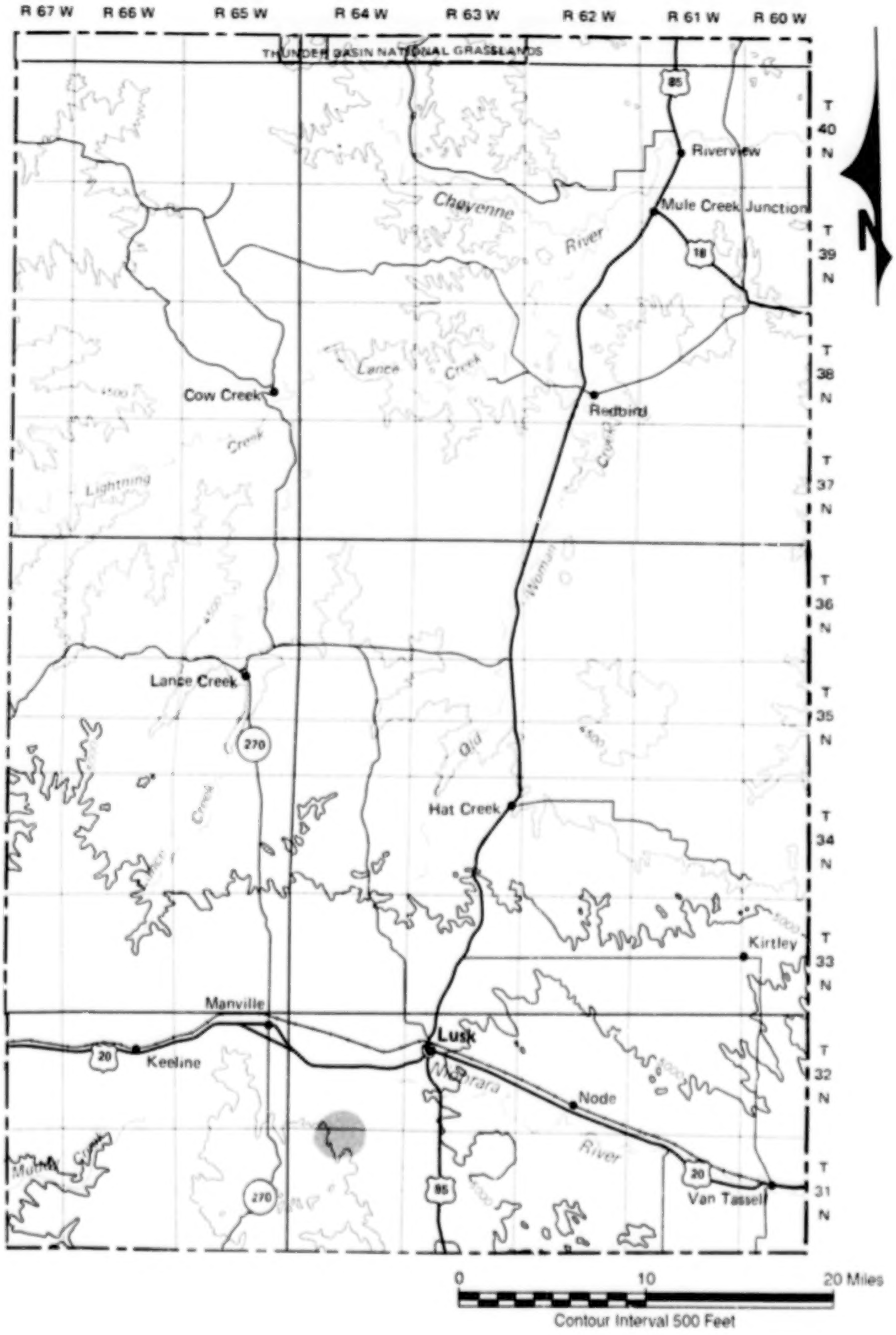
Map 3-9
Hydrogen Sulfide
as a Geologic Hazard



▨ Active and Inactive Landslide Areas

Source: Laura L. Larson & James C. Case,
Wyoming Geological Survey

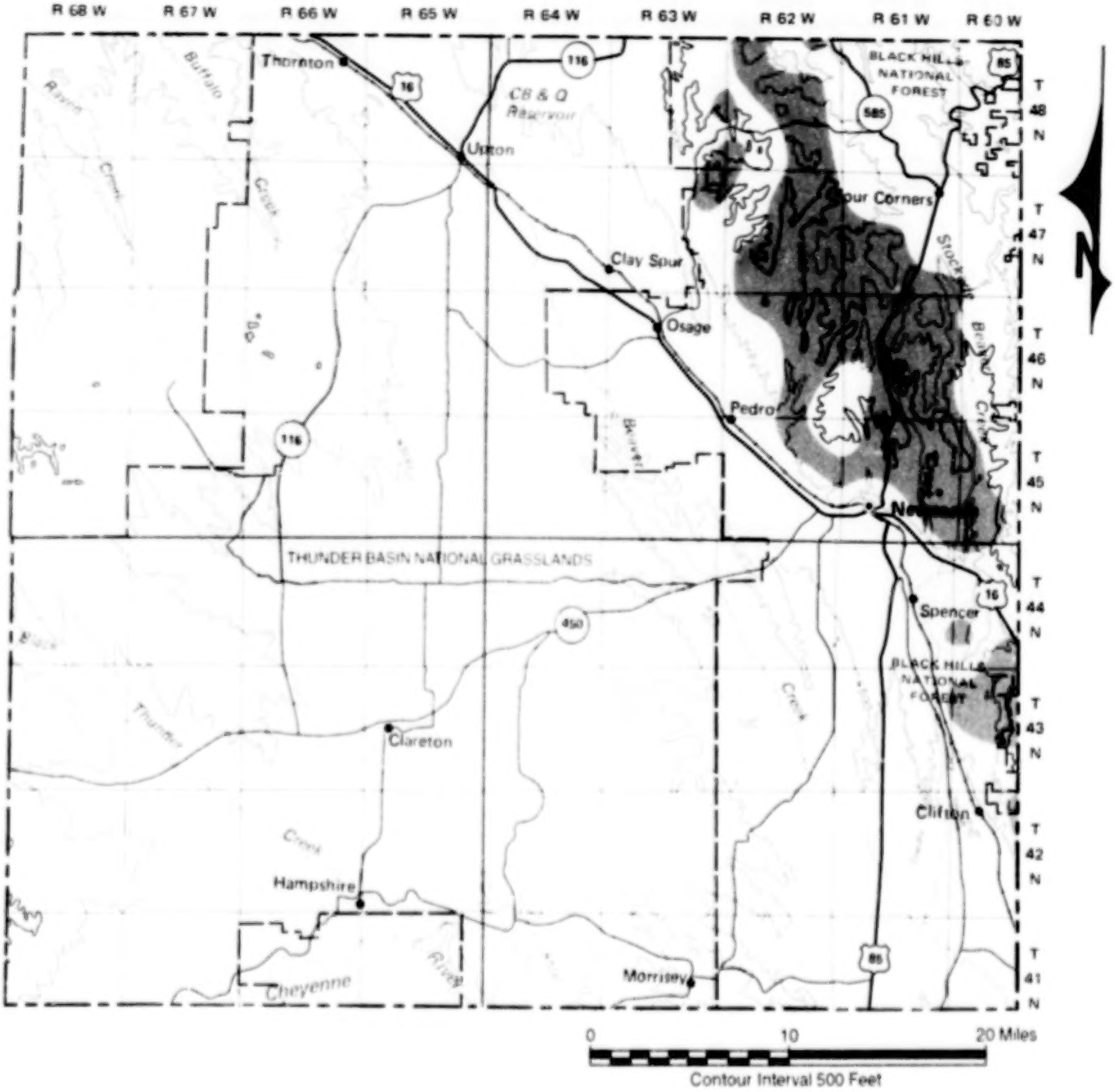
Map 3-10
Generalized Landslide Areas in Crook County



▨ Active and Inactive Landslide Areas

Source: Laura L. Larson & James C. Case,
Wyoming Geological Survey

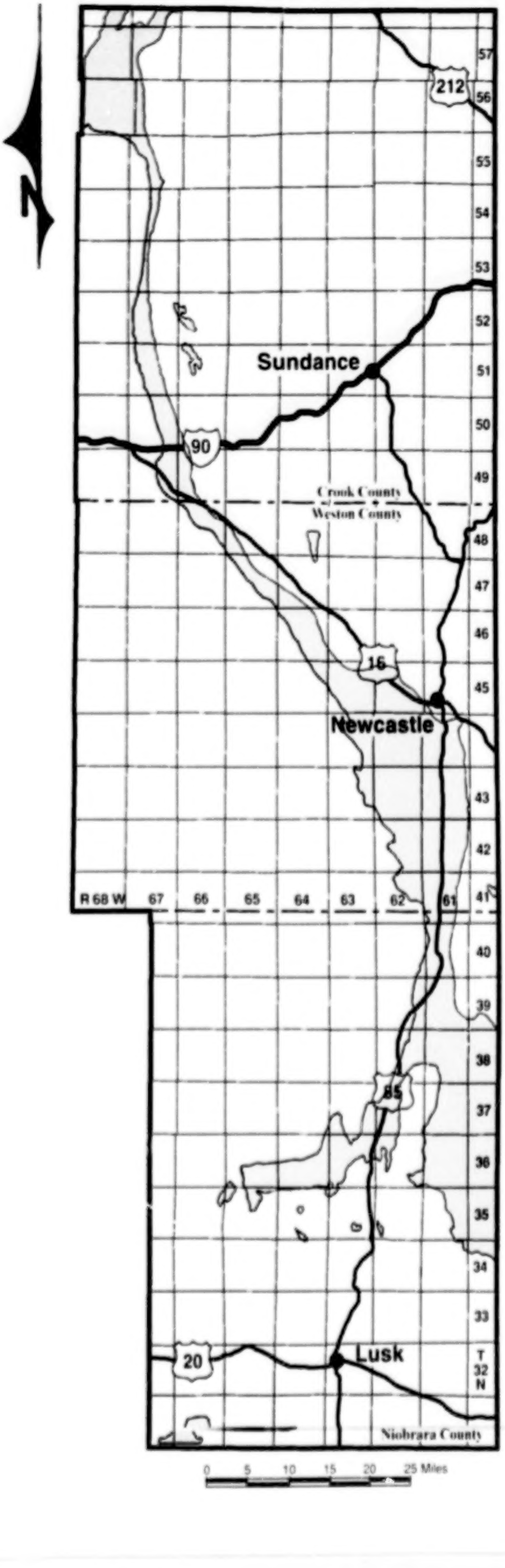
Map 3-11
Generalized Landslide Areas in Niobrara County



▨ Active and Inactive Landslide Areas

Source: Laura L. Larson & James C. Case,
Wyoming Geological Survey

Map 3-12
Generalized Landslide Areas in Weston County

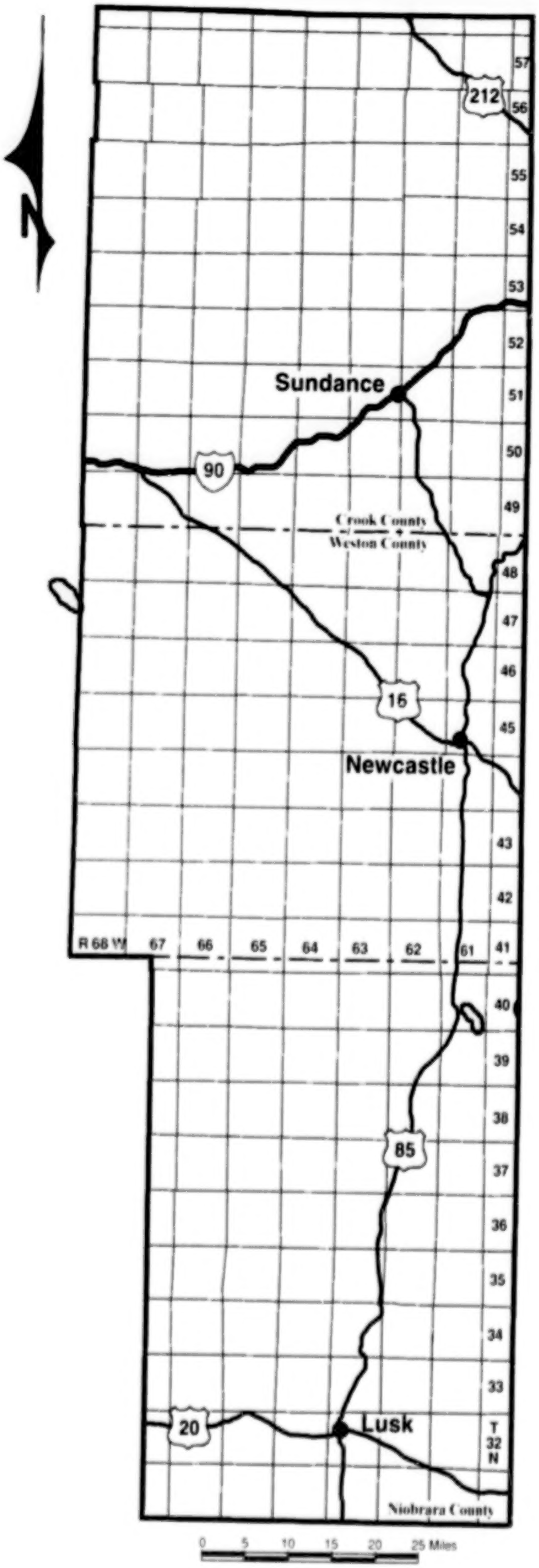


◯ Selenium

Source: Cannia (1988)

Map 3-13

Areas with Selenium



⬭ Blowing and Drifting Sand

Source: Case and Boyde. 1987.

Map 3-14

Windblown Sand Areas

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Newcastle Field Office
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Newcastle, WY 82701-2968

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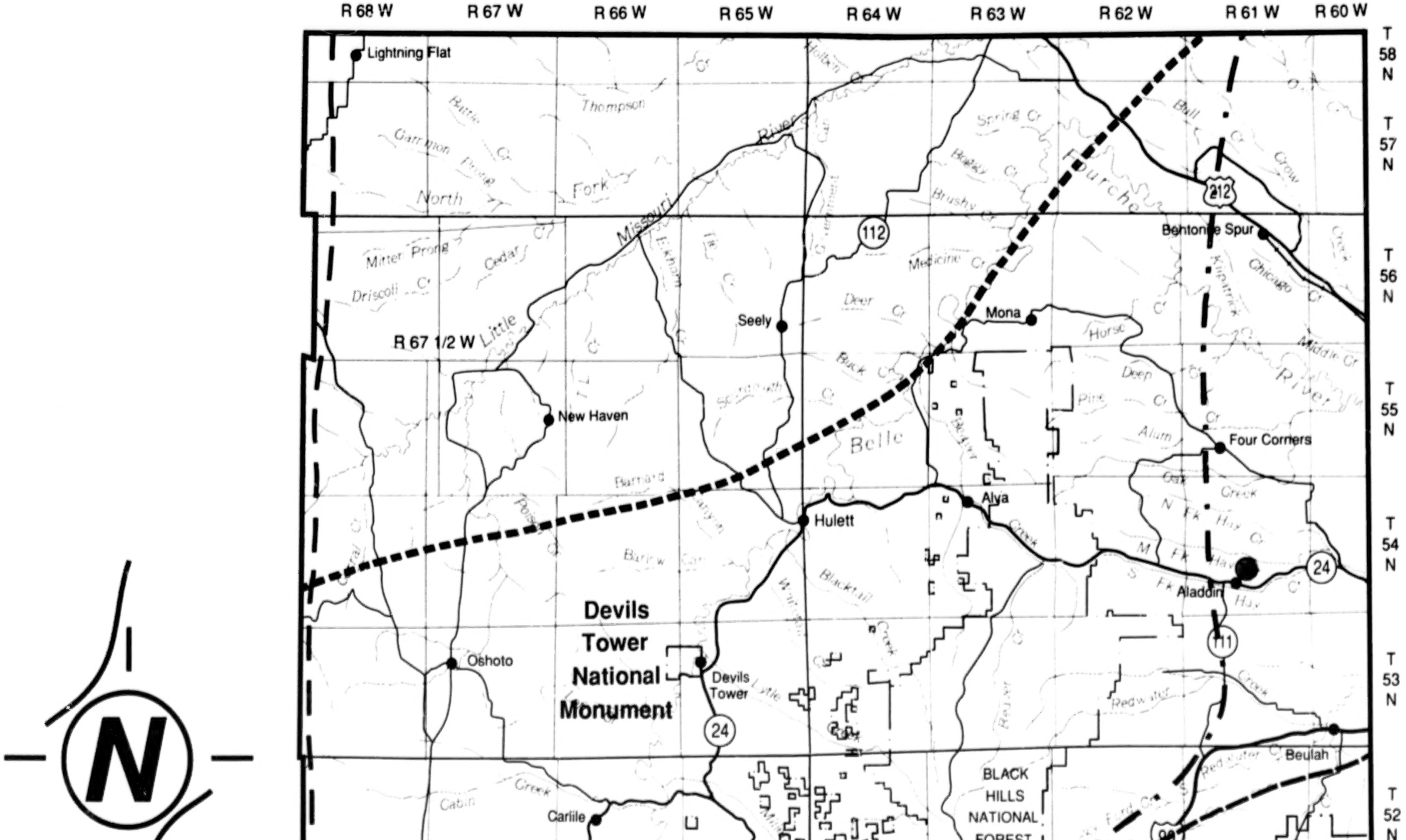
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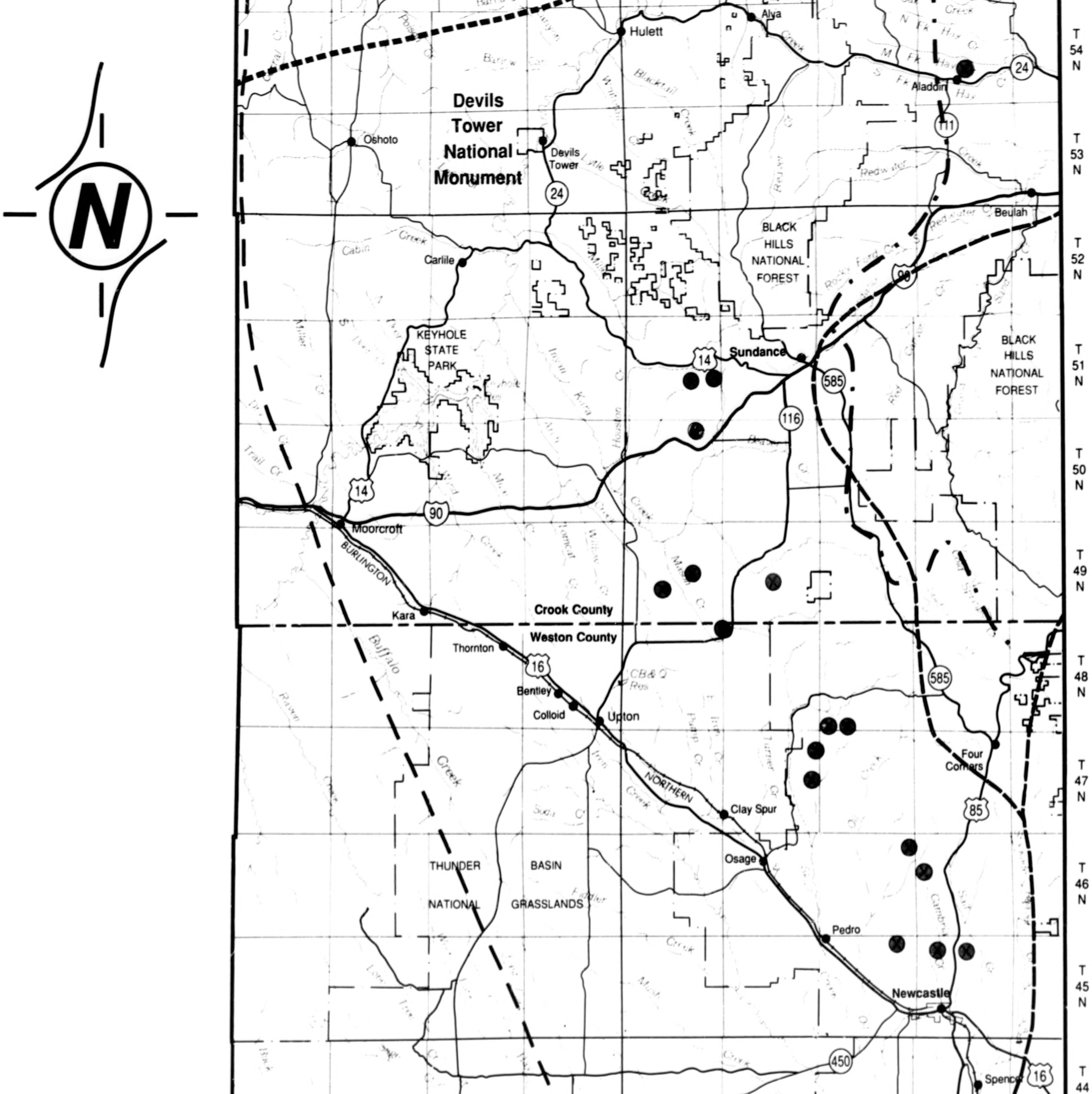N
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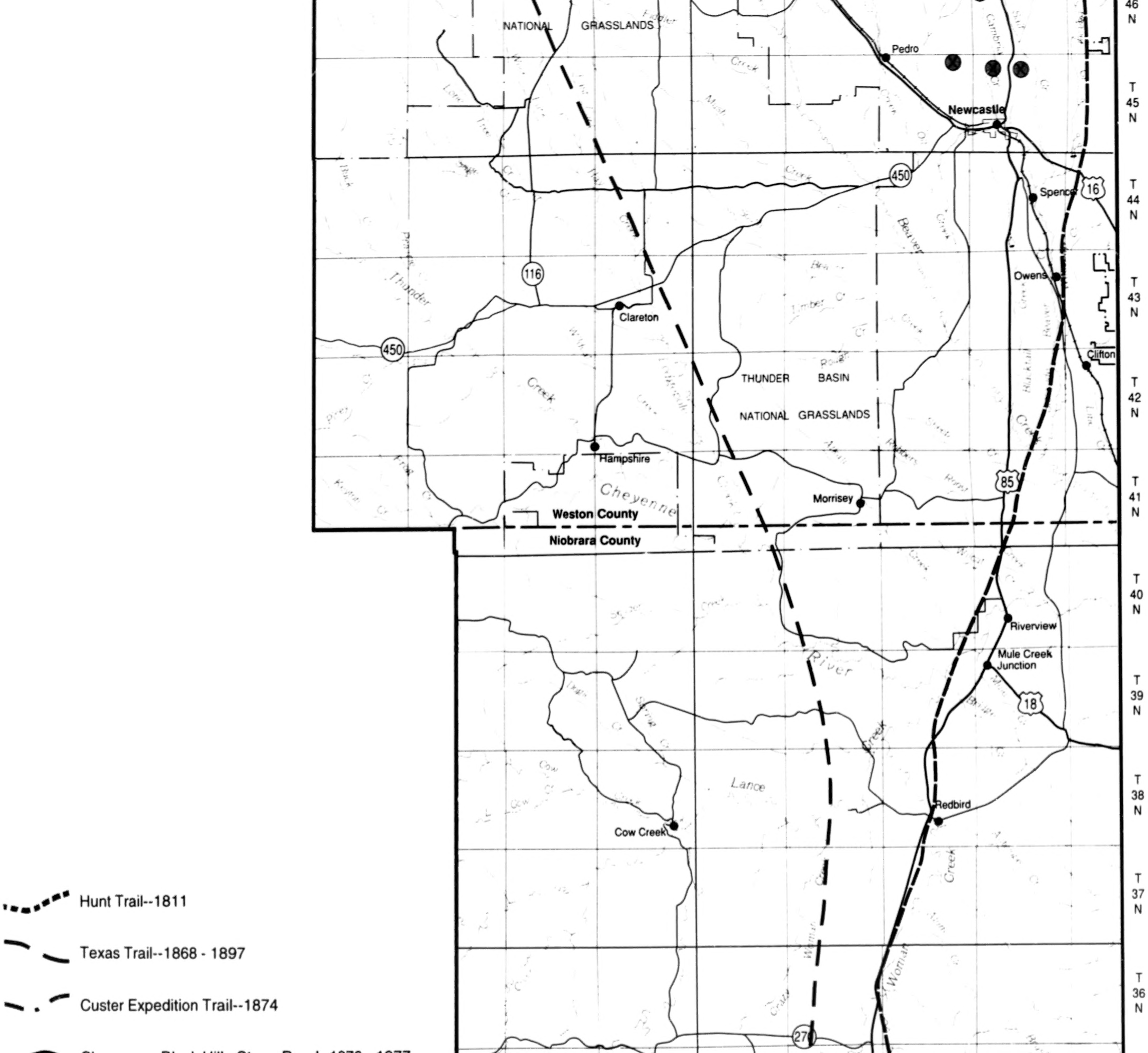
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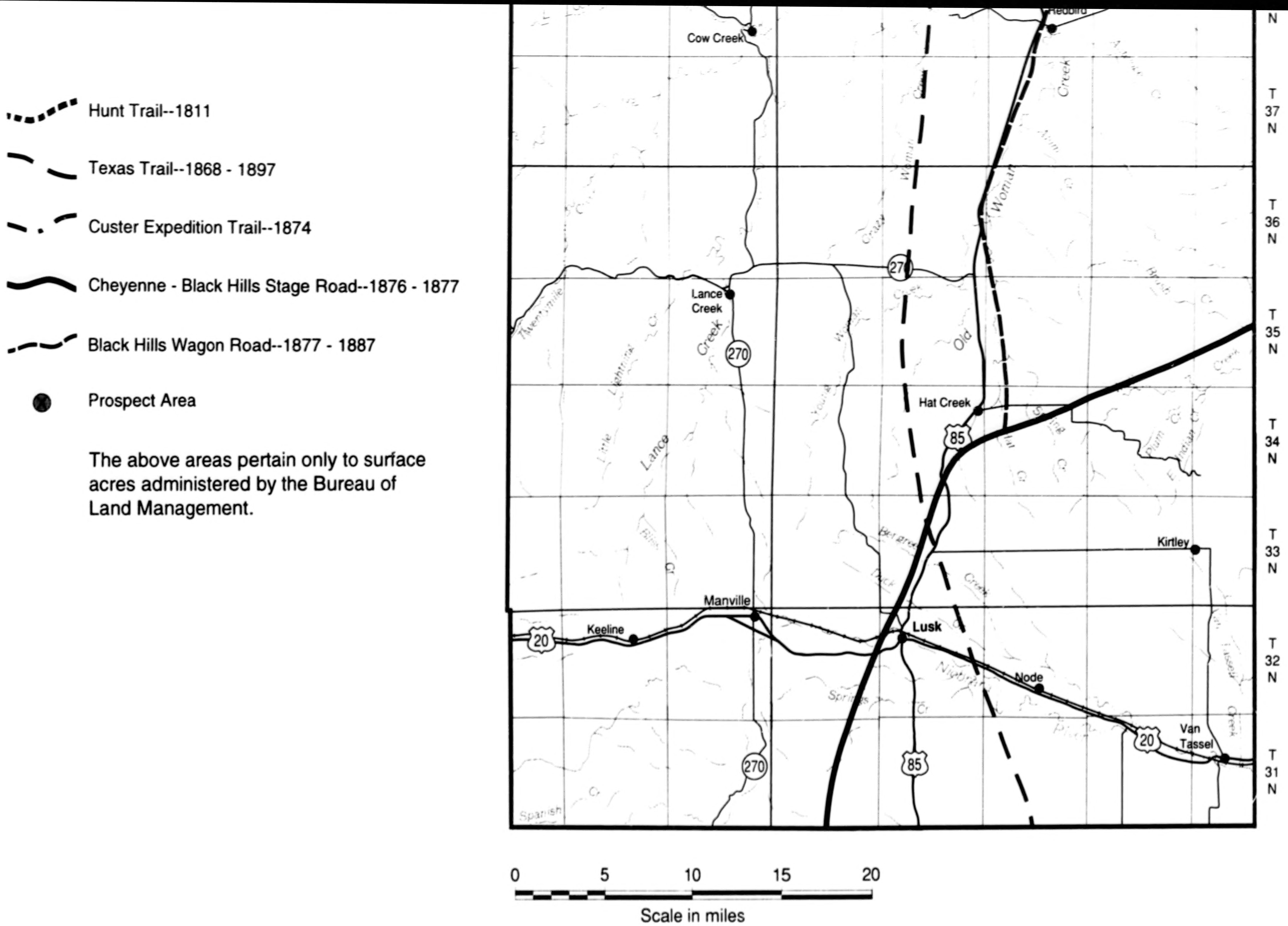
Texas Trail--1868 - 1897
Custer Expedition Trail--1874



The above areas pertain only to surface acres administered by the Bureau of Land Management.

Map 3-1
Areas of Natural or Historic Interest
Newcastle Field Office

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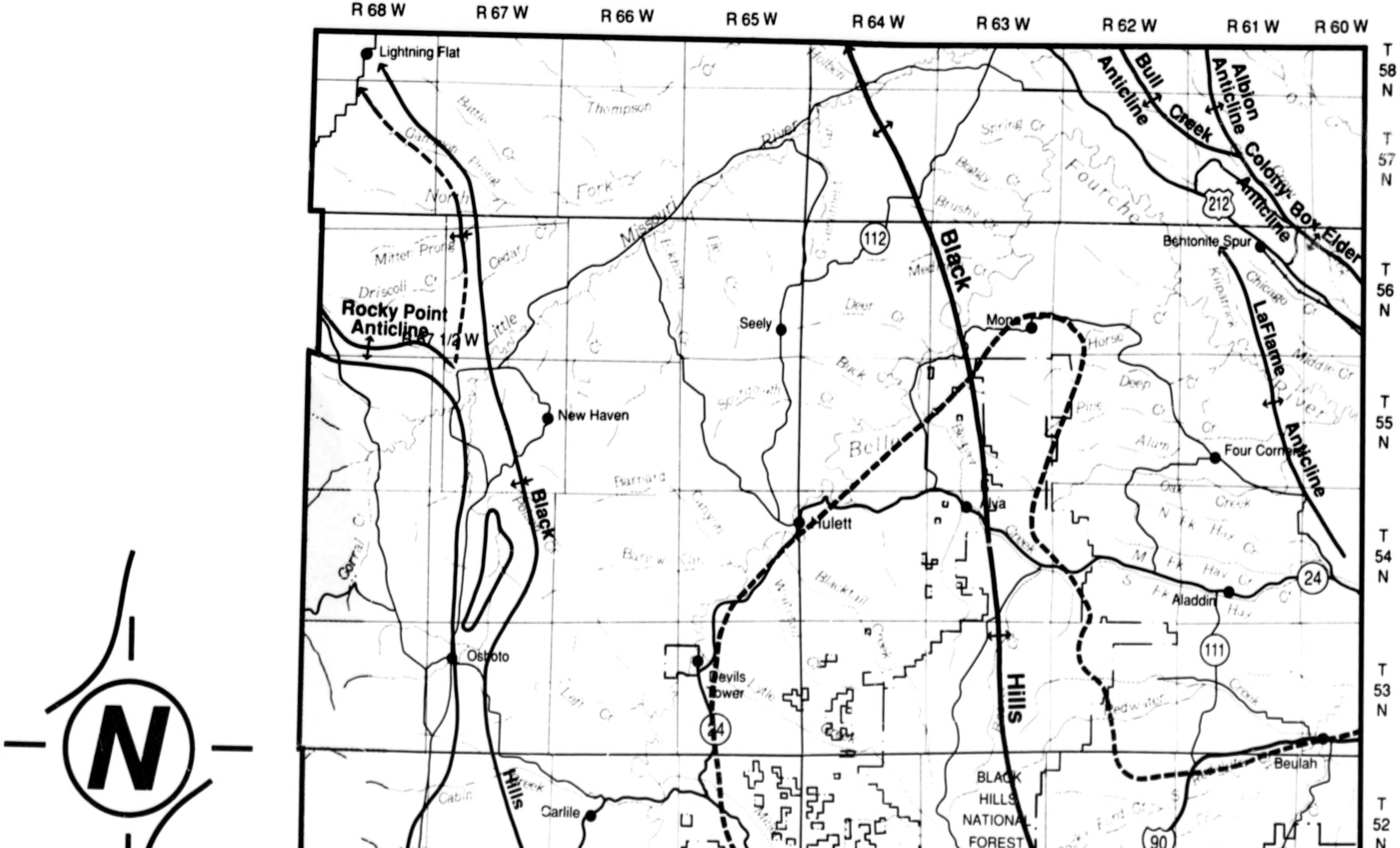
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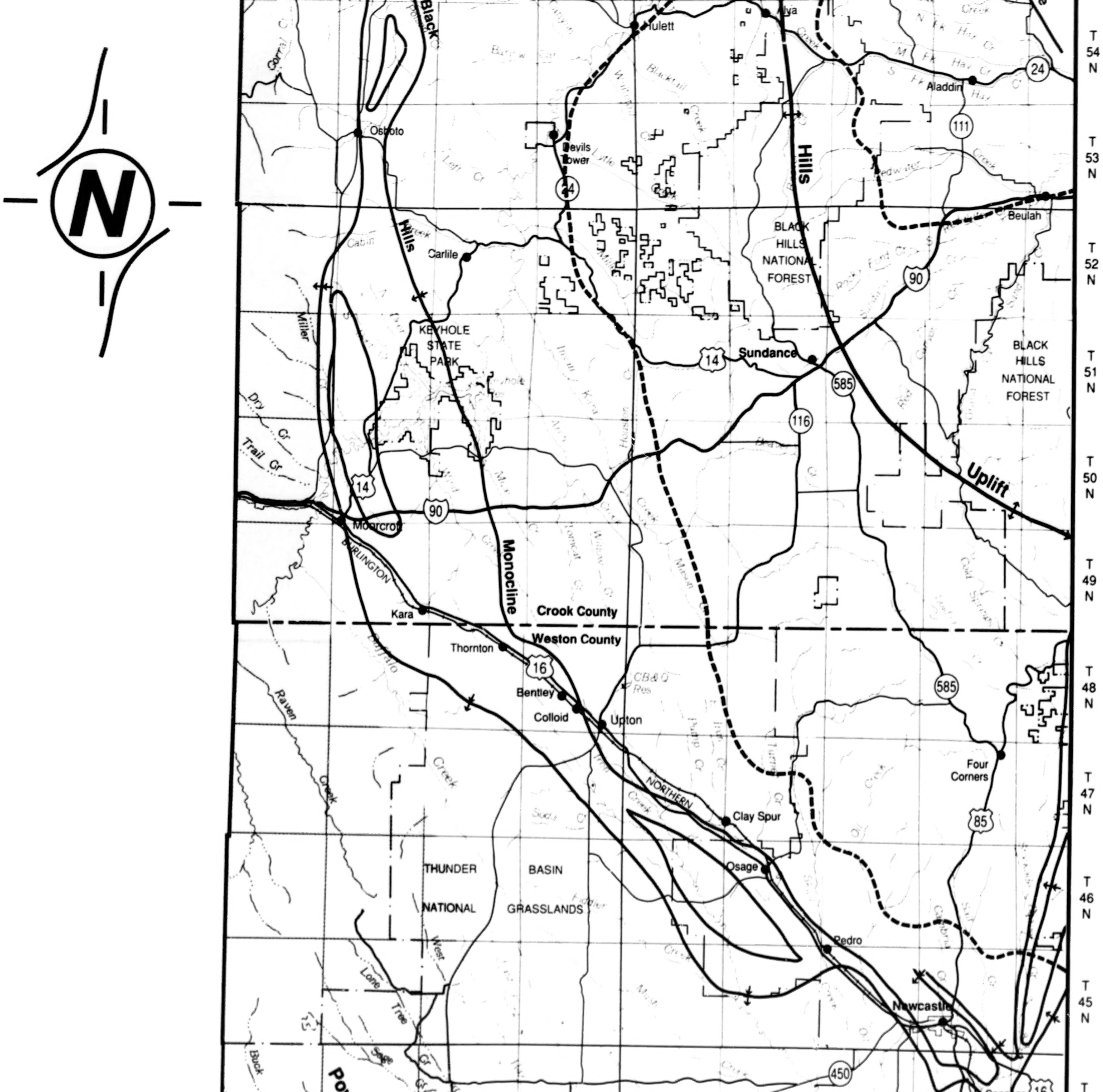N
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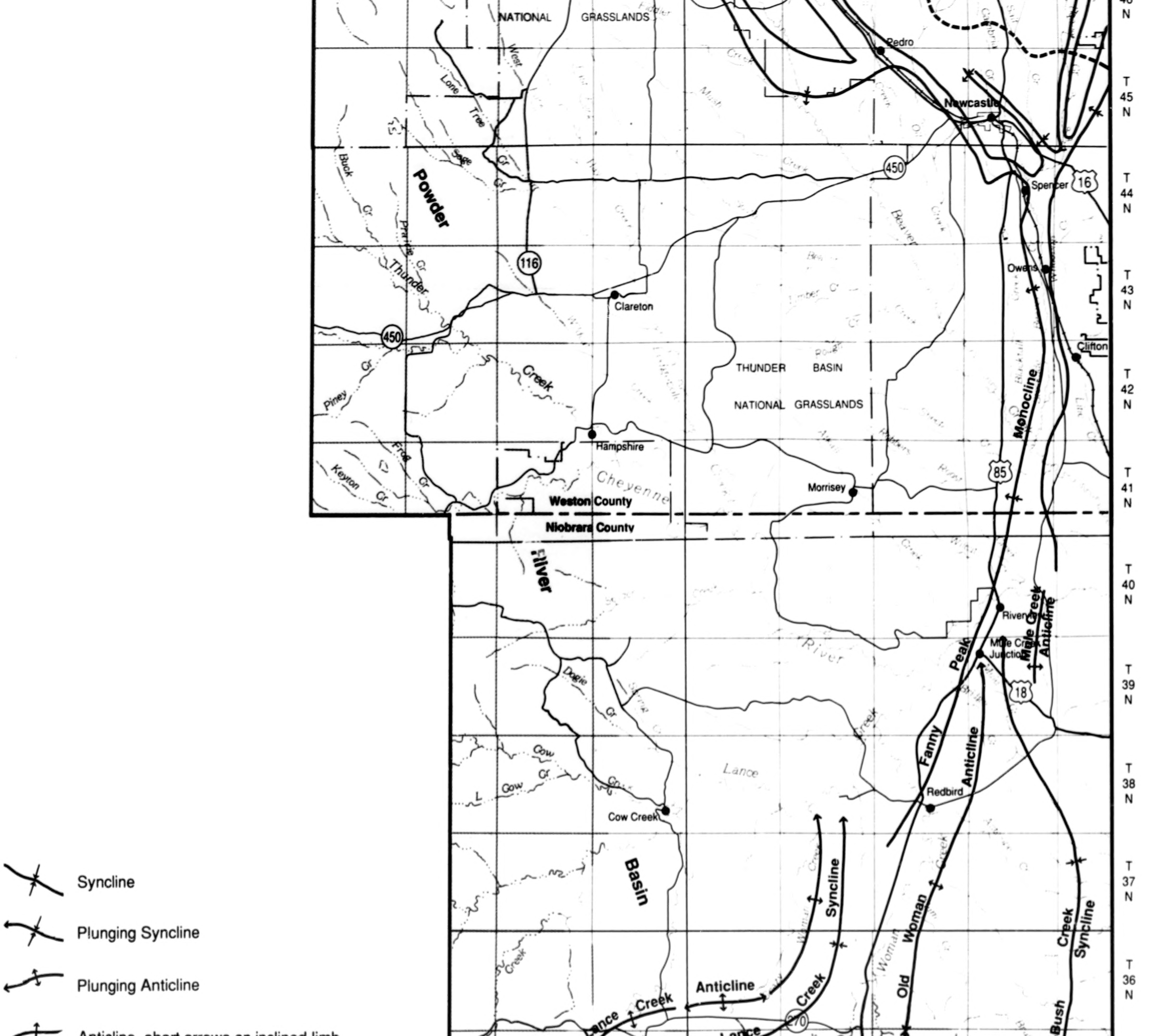
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Buck Cr
Lone Tree Cr
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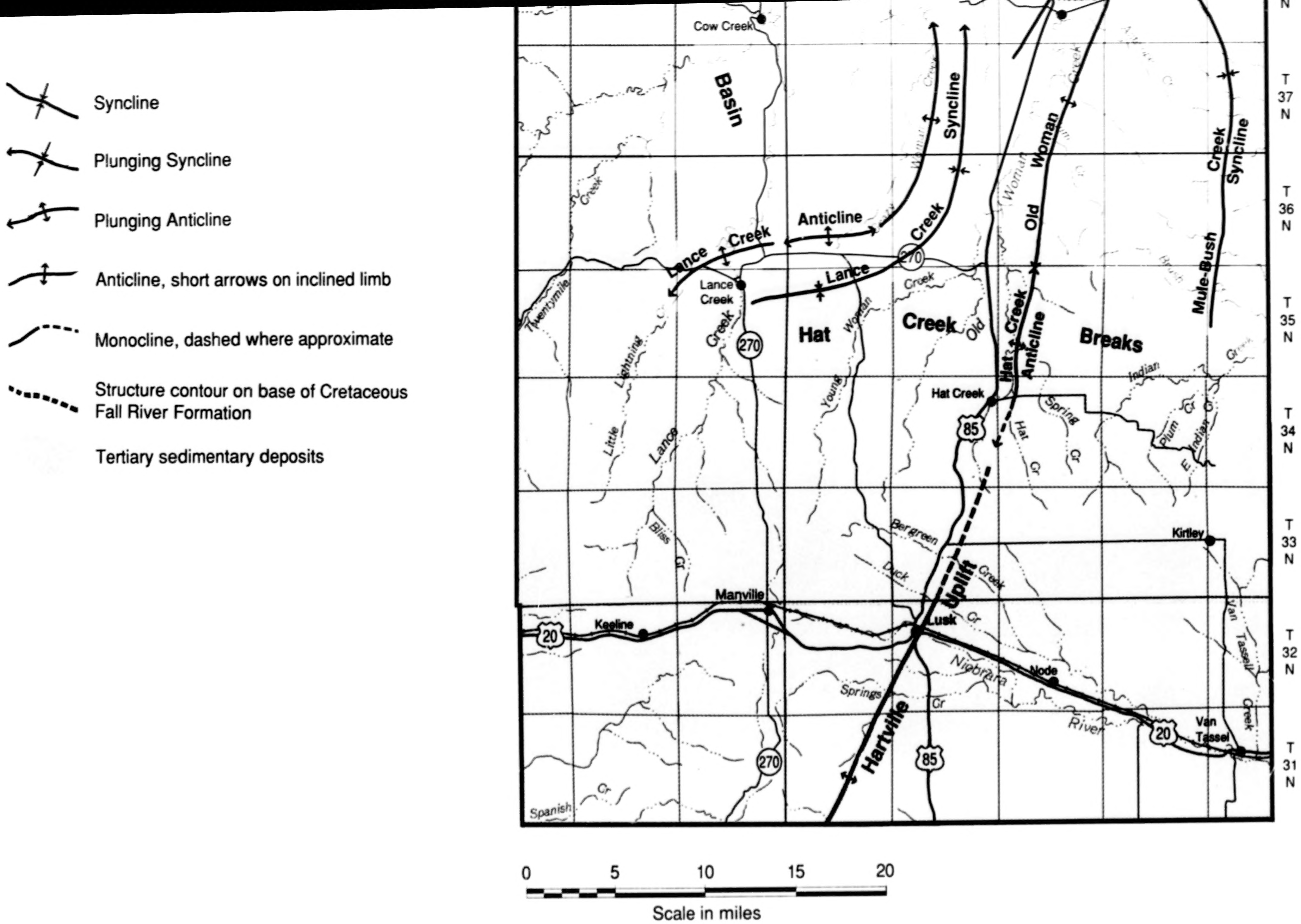
Anticline, short arrows on inclined limb



Map 3-2

Geology

Newcastle Field Aea

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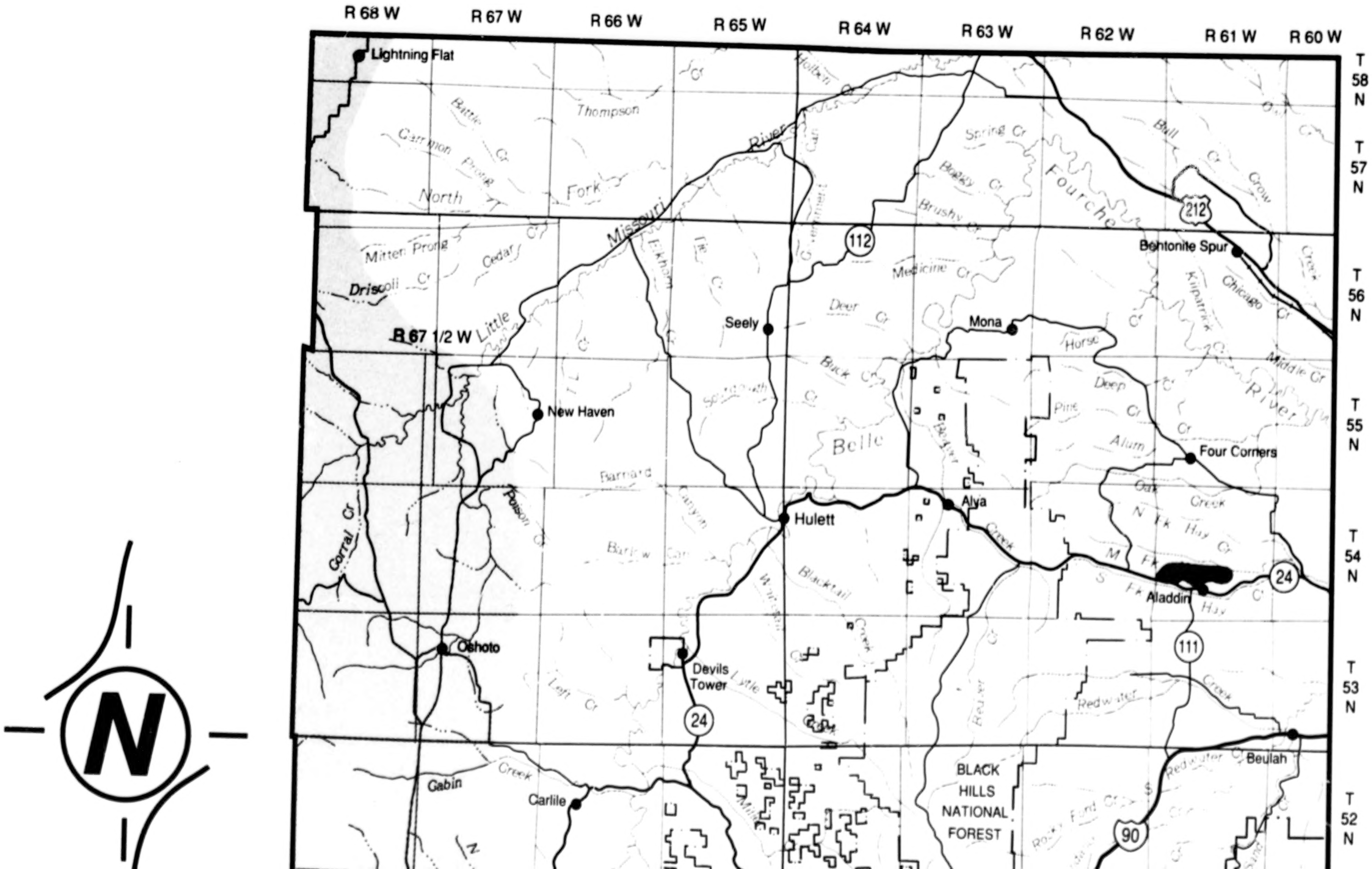
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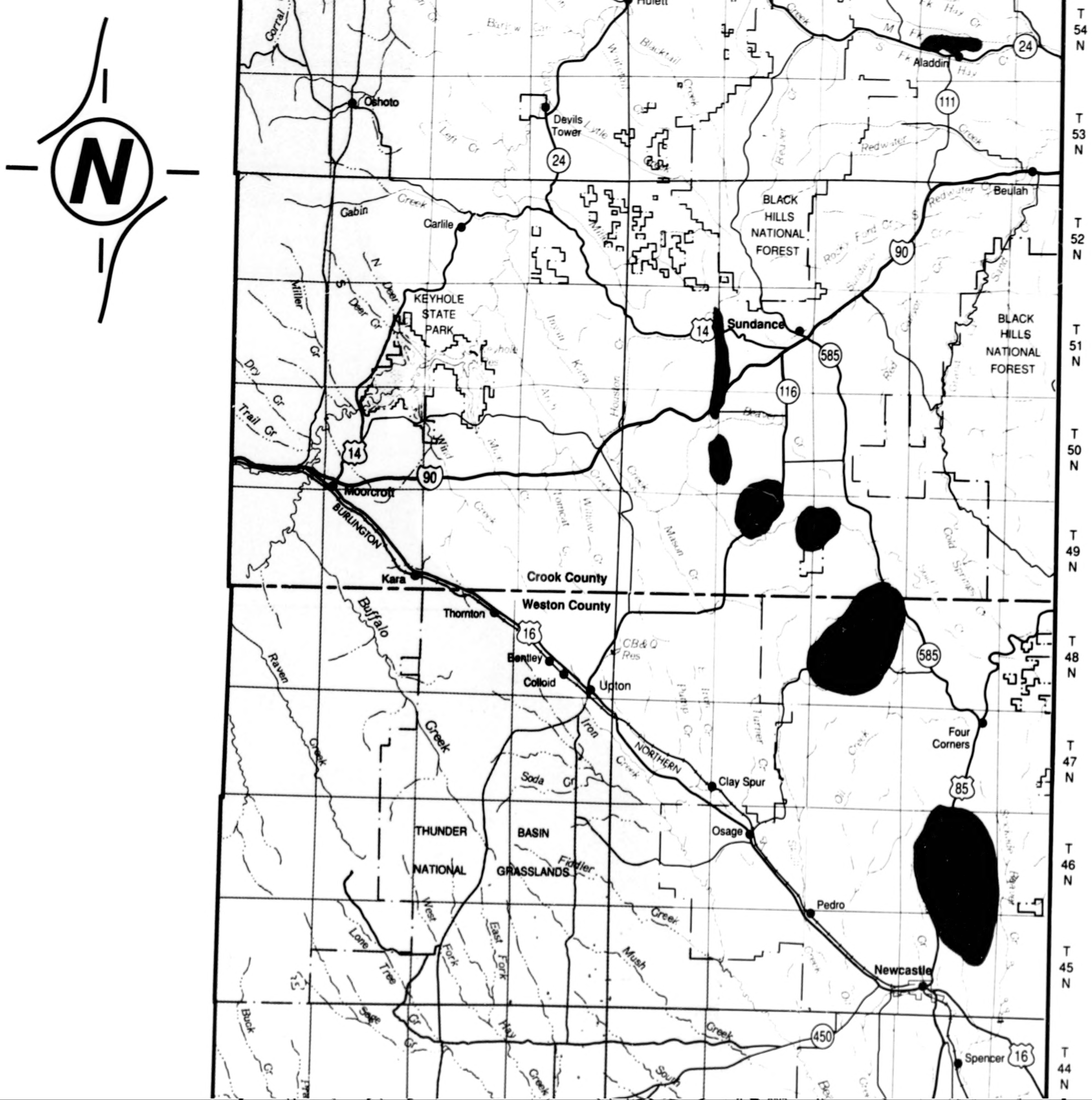N
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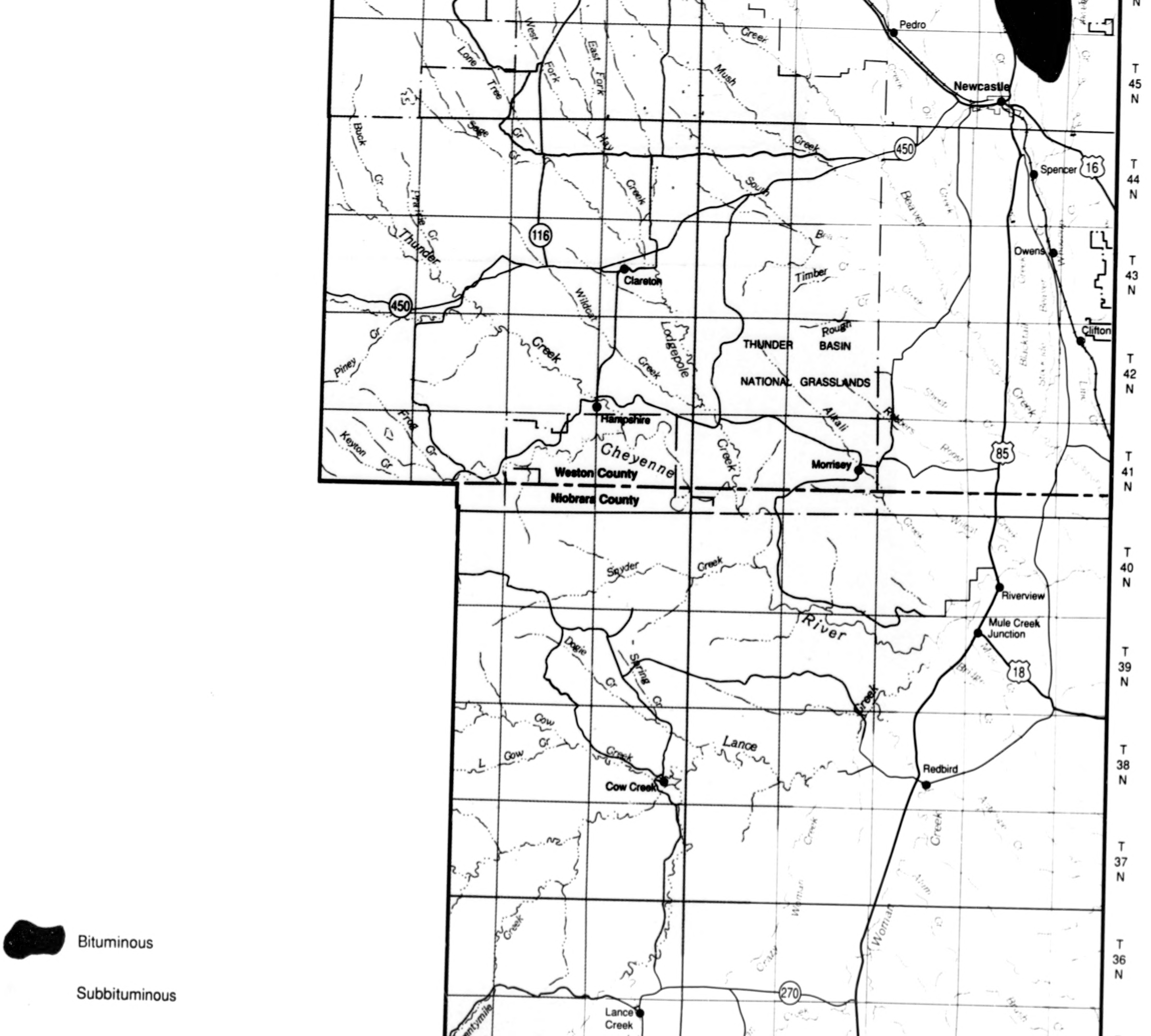
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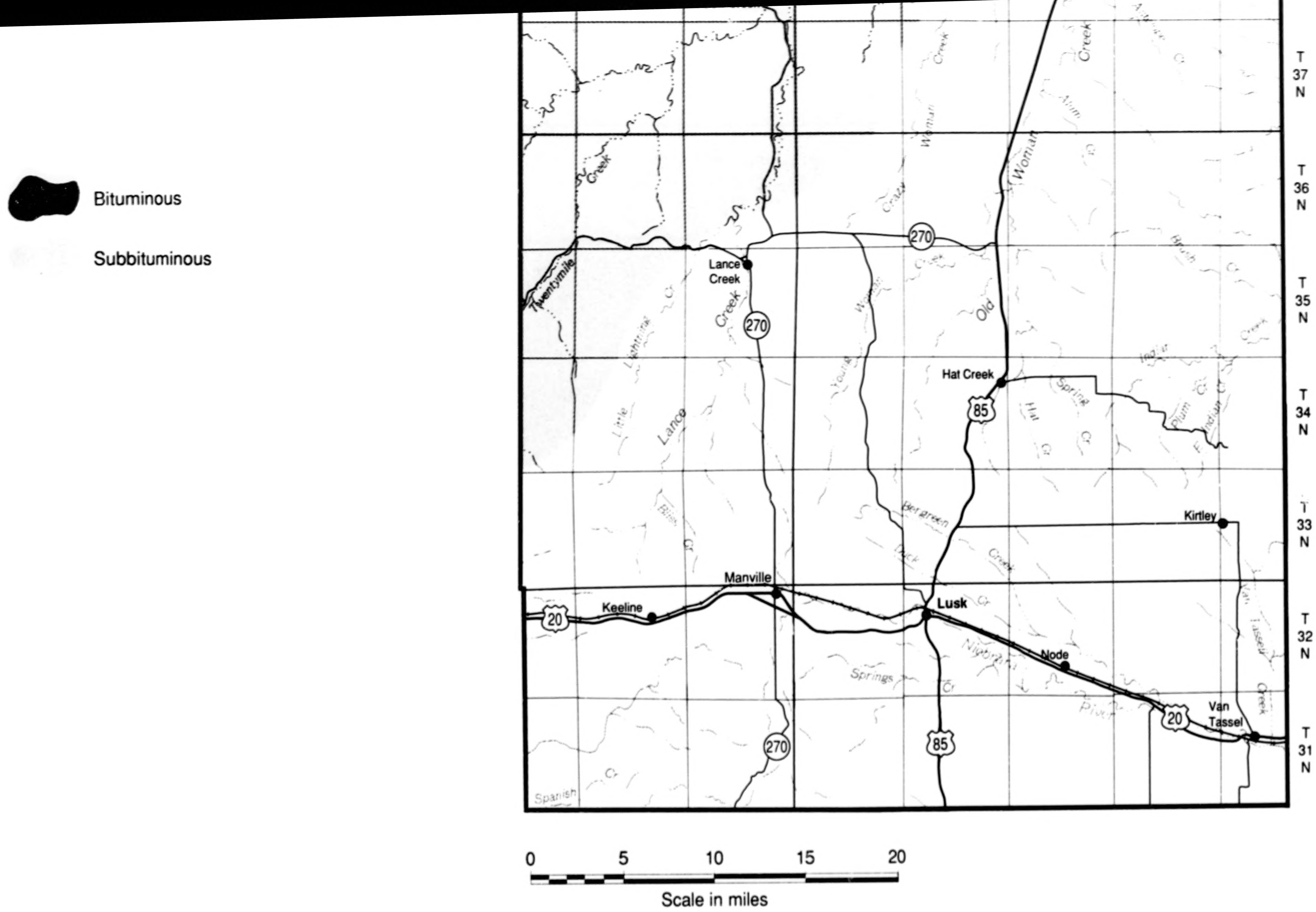

Map 3-3
Coal-bearing Areas
Newcastle Field Office

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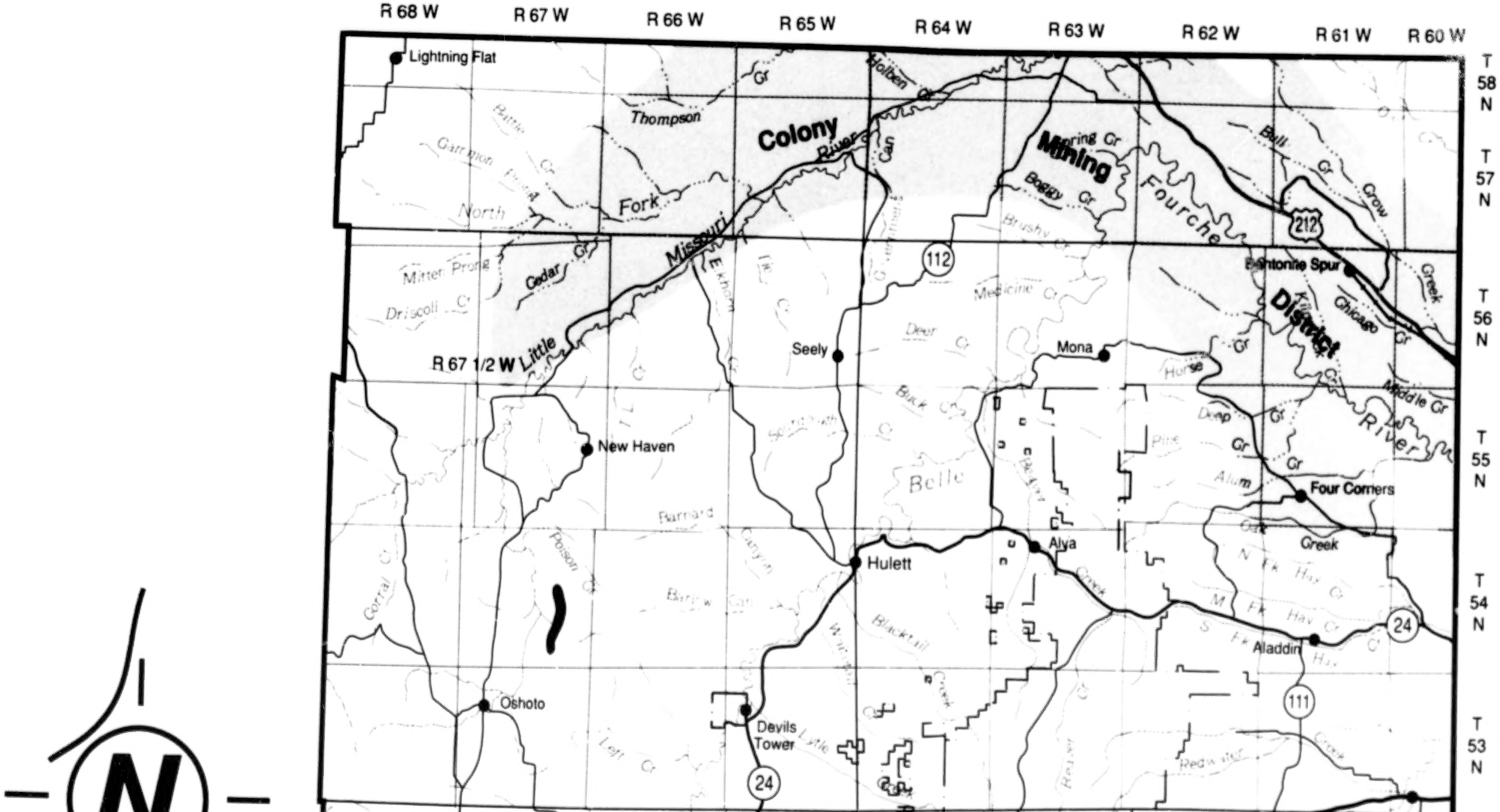
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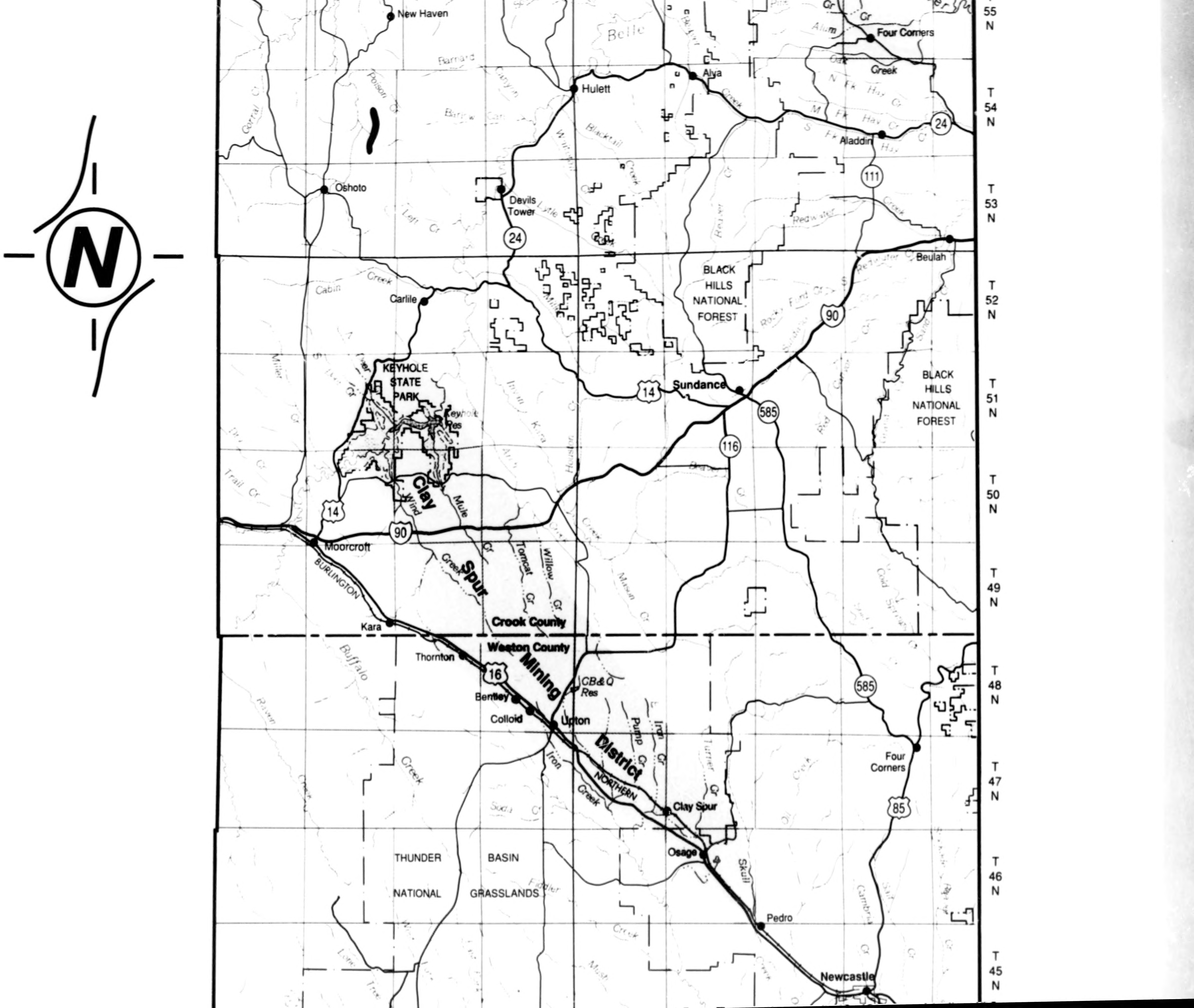
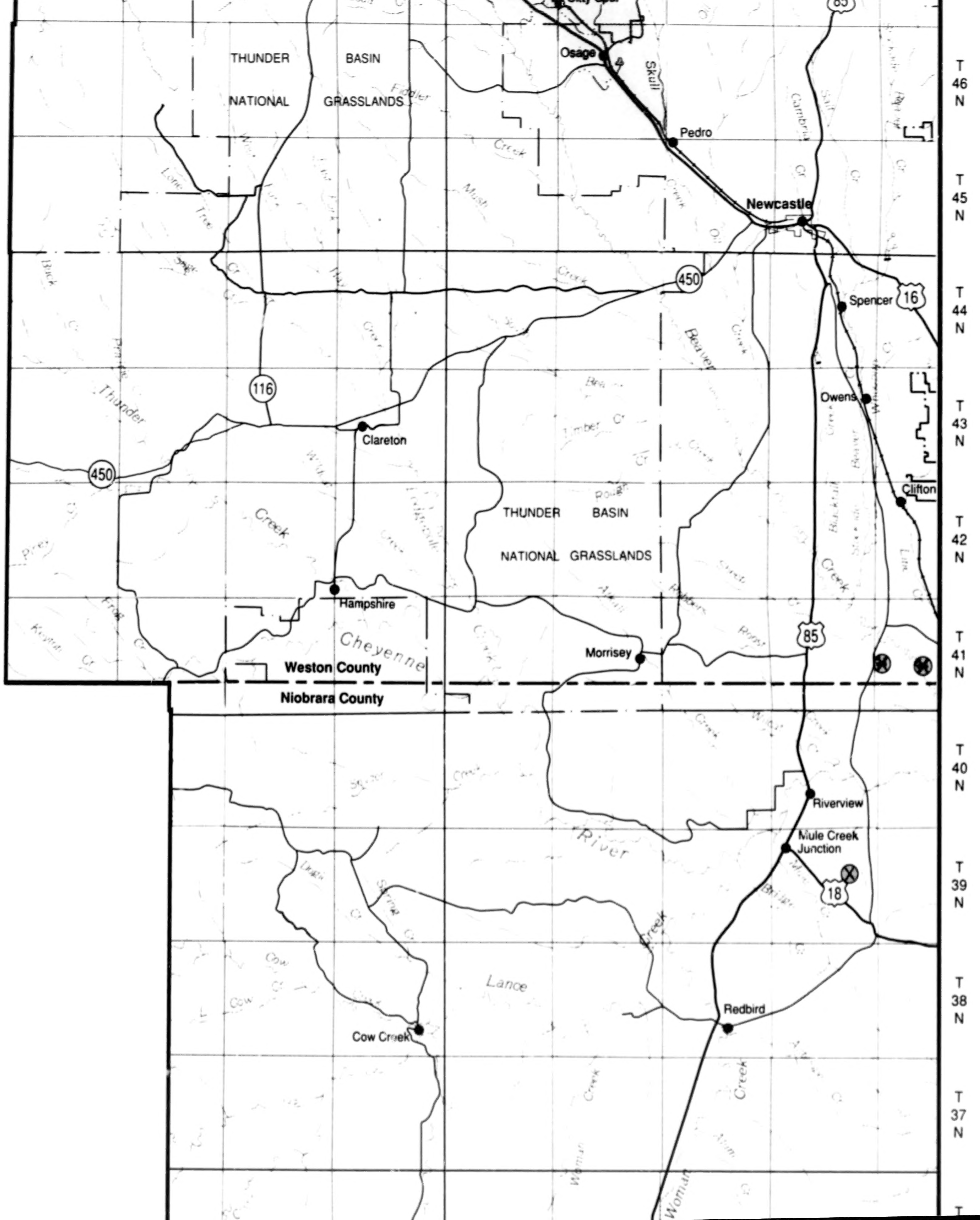
Little
Left Cr
24
Redwater
Creek
N

N
New Haven
Belle
Four Corners
Alum
Creek
N Fk Hay Cr
M Fk Hay Cr
S Fk Hay
Hulett
Alva
Aladdin
24
111
Barnard
Poison Cr
Barlow Can
Corral Cr
Blacktail
Oshoto
Devils Tower
Little
Left Cr
Redwater
Beulah
Cabin
Creek
Carlile
BLACK HILLS NATIONAL FOREST
Rocky Ford Cr
Sundance
90
14
585
116
KEYHOLE STATE PARK
Keyhole Res
Miller
Trail Cr
Clay
Wind
Mule
Moorcroft
BURLINGTON
Spur
Creek
Tomcat Cr
Willow Cr
Mason Cr
Cold Springs
Kara
Crook County
Weston County
Mining
District
Buffalo
Thornton
16
Bentley
Colloid
Upton
CB&Q Res
Pump Cr
Iron Cr
Turner Cr
NORTHERN
Clay Spur
Iron Creek
Four Corners
85
Osage
Skull
Pedro
THUNDER BASIN NATIONAL GRASSLANDS
Fiddler
Newcastle
Cambria
T 55 N
T 54 N
T 53 N
T 52 N
T 51 N
T 50 N
T 49 N
T 48 N
T 47 N
T 46 N
T 45 N



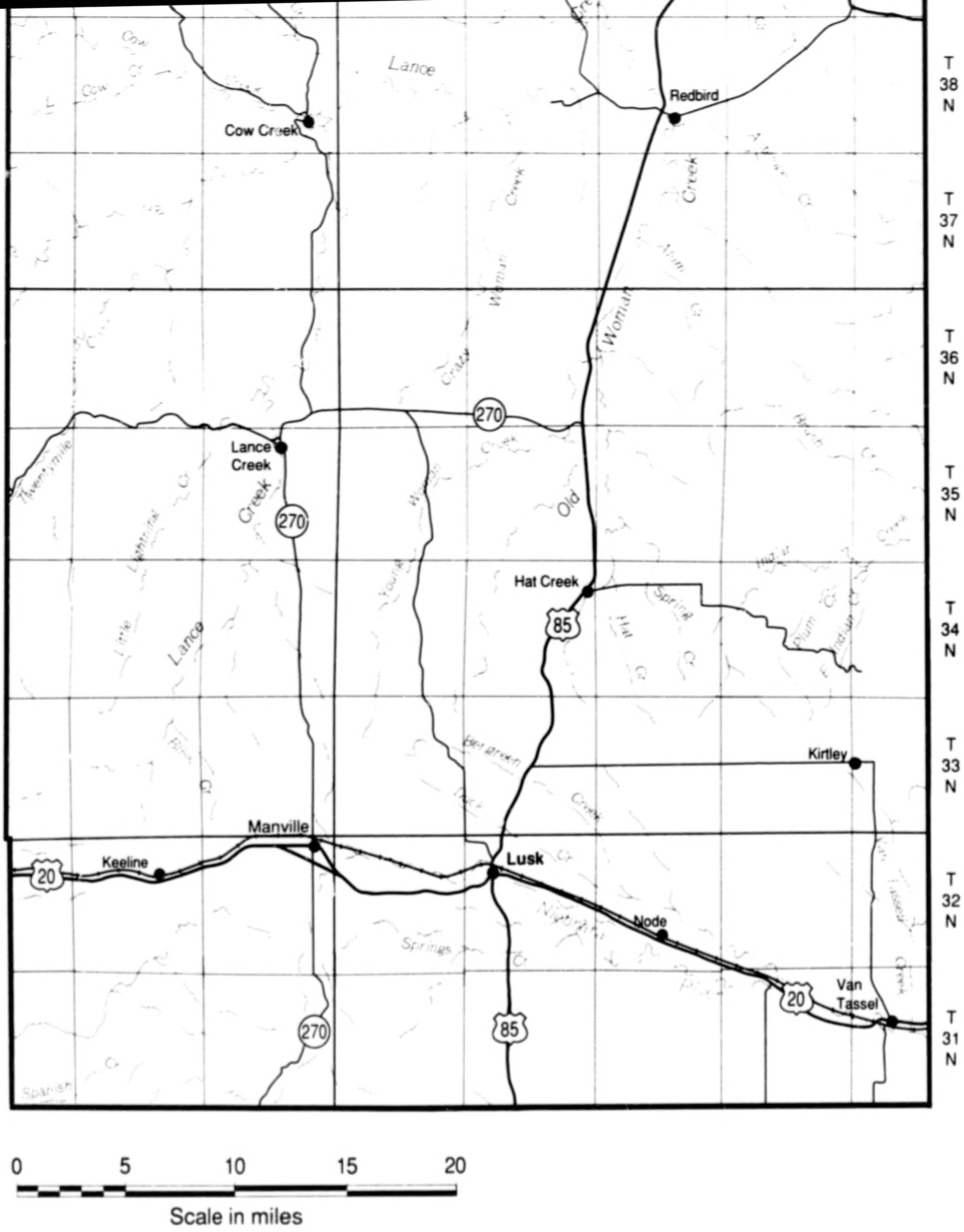
Mining district

Mining district

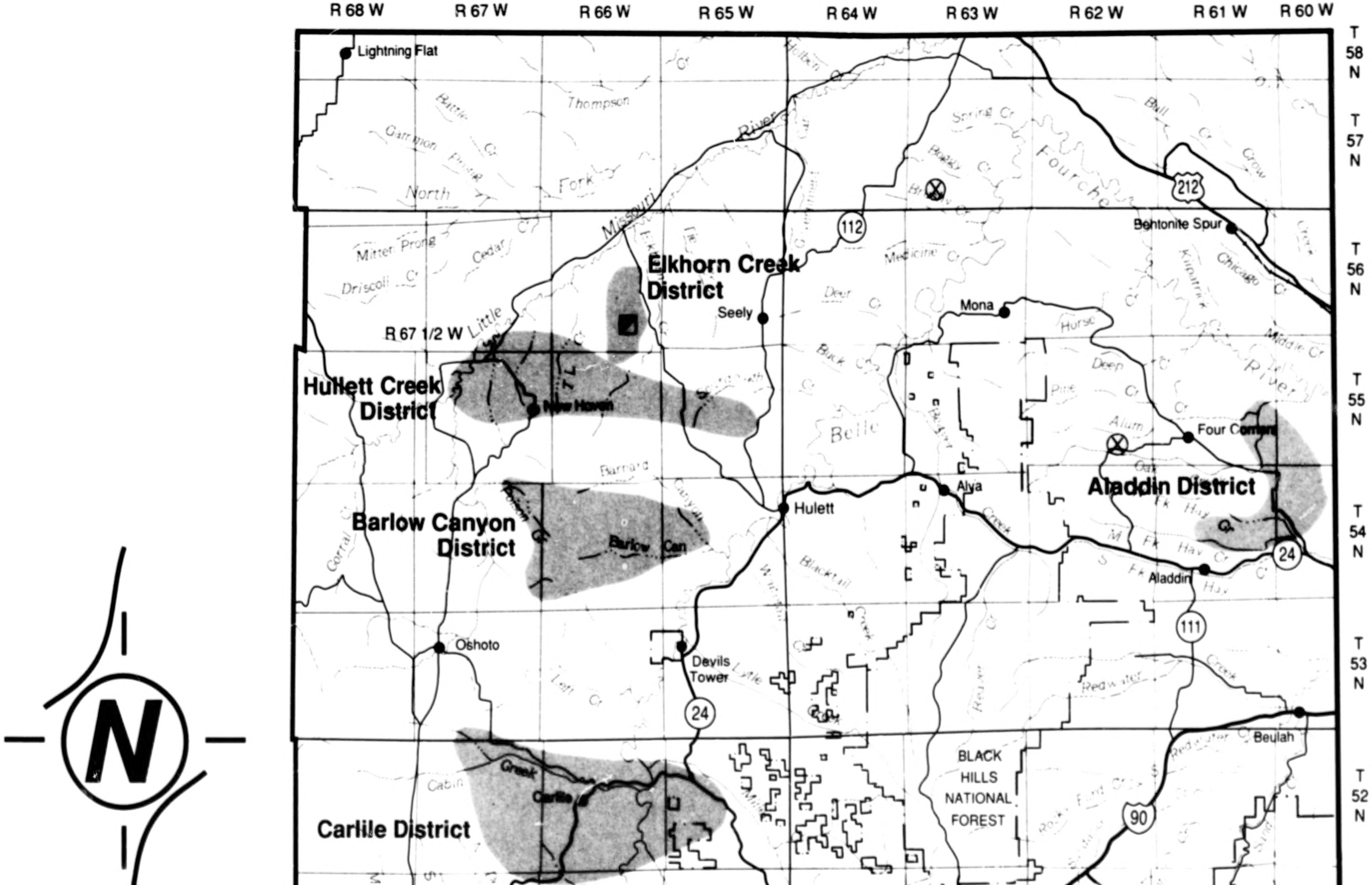
Mineralized area

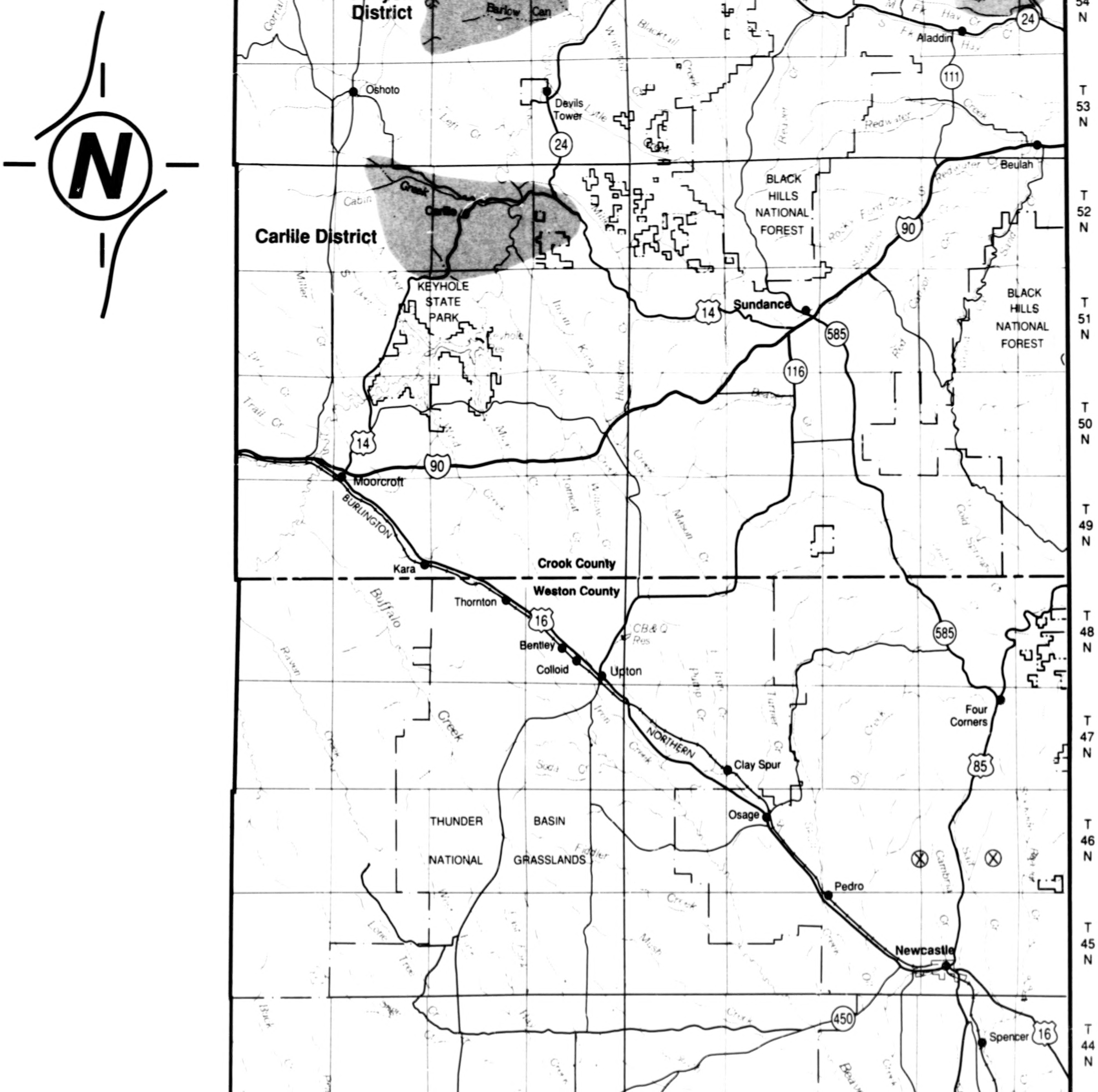
● Abandoned or inactive surface mine

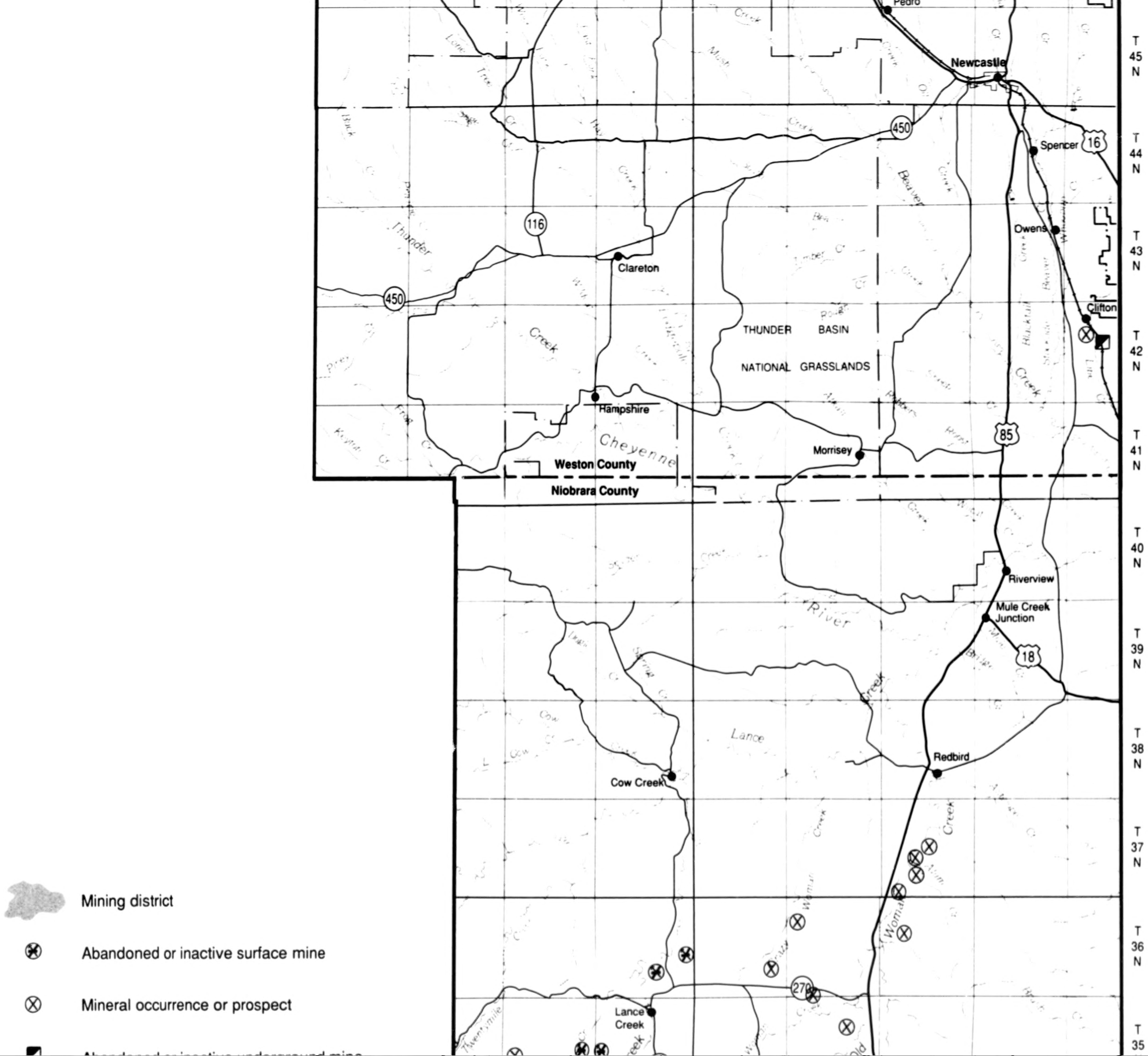
⊗ Mineral occurrence or or prospect

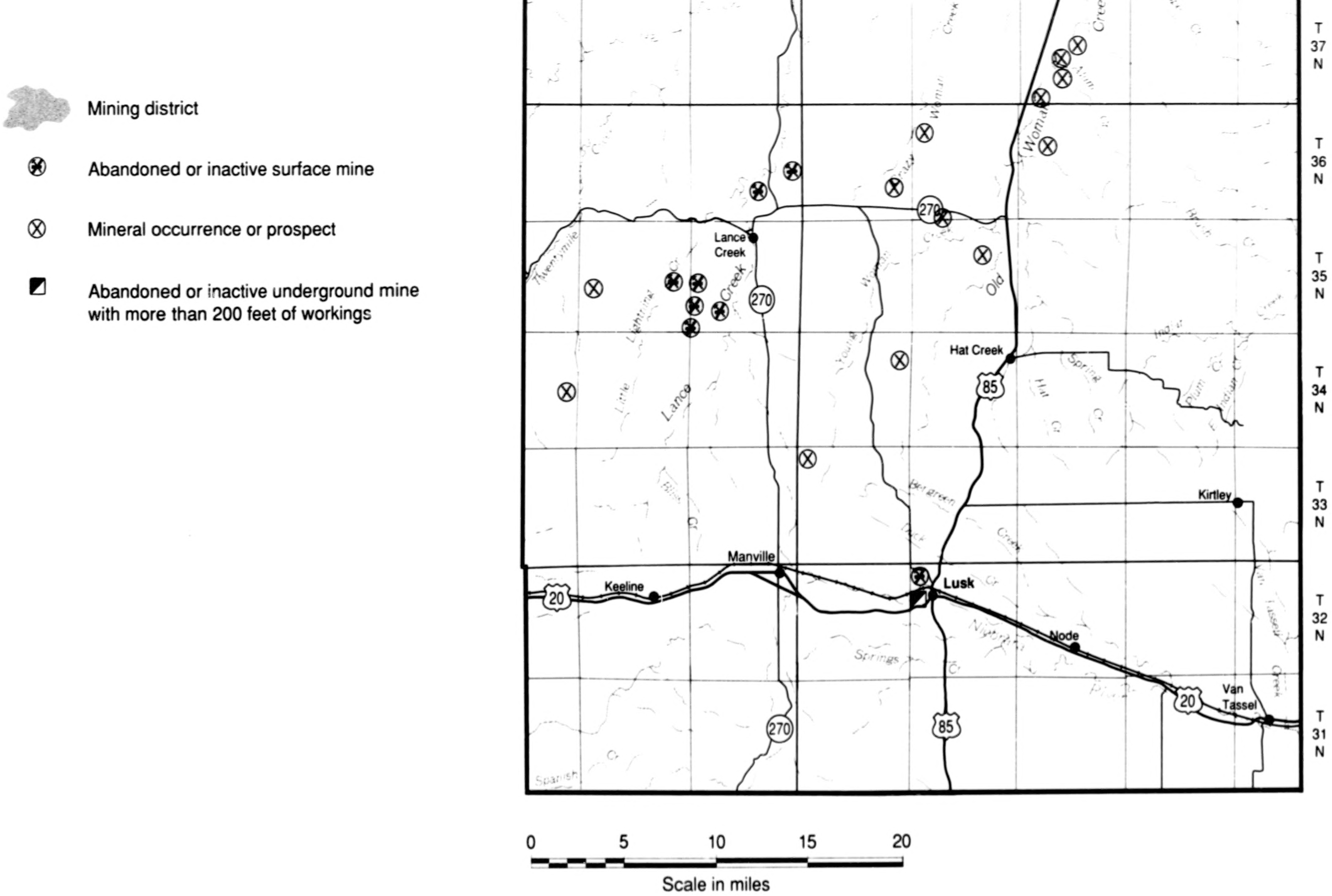


Map 3-4
Benonite Mining Areas


R 68 W
R 67 W
R 66 W
R 65 W
R 64 W
R 63 W
R 62 W
R 61 W
R 60 W
T 58 N
T 57 N
T 56 N
T 55 N
T 54 N
T 53 N
T 52 N
R 67 1/2 W
Lightning Flat
Elkhorn Creek District
Hulett Creek District
Barlow Canyon District
Aladdin District
Carlile District
Seely
Mona
New Haven
Hulett
Alva
Four Corners
Aladdin
Oshoto
Devils Tower
Beulah
Bentonite Spur
Carlile
BLACK HILLS NATIONAL FOREST
Belle Fourche River
Missouri
Little
North Fork
Thompson
Battle Cr
Cedar Cr
Mitter Prong
Driscoll Cr
Deer Cr
Medicine Cr
Spring Cr
Bull Cr
Crow Cr
Chicago Cr
Kilpatrick
Middle Cr
Horse
Deep Cr
Pine
Alum
Hay Cr
M Fk Hay Cr
S Fk Hay
Barnard
Barlow Can
Corral Cr
Blacktail
Redwater Creek
Redwater Cr
Cabin
Creek
Little
112
212
24
111
90
N


N
District
Barlow Can
Oshoto
Devils Tower
24
111
Aladdin
24
T 54 N
T 53 N
Beulah
Carlile District
Carlile
BLACK HILLS NATIONAL FOREST
T 52 N
90
KEYHOLE STATE PARK
Sundance
14
585
BLACK HILLS NATIONAL FOREST
T 51 N
116
T 50 N
14
90
Moorcroft
BURLINGTON
T 49 N
Kara
Crook County
Weston County
Thornton
16
CB&Q Res
Bentley
Colloid
Upton
T 48 N
585
Four Corners
NORTHERN
Clay Spur
T 47 N
85
Osage
THUNDER BASIN NATIONAL GRASSLANDS
T 46 N
Pedro
Newcastle
T 45 N
450
Spencer
16
T 44 N
Buffalo Creek
Redwater
Soda Cr
Fiddler
Turner Cr


Pedro
Newcastle
450
Spencer
16
Owens
Clifton
116
Clareton
450
THUNDER BASIN
NATIONAL GRASSLANDS
Hampshire
Cheyenne
Weston County
Niobrara County
Morrisey
85
Riverview
Mule Creek
Junction
18
River
Lance
Creek
Redbird
Cow Creek
Lance
Creek
270
T 45 N
T 44 N
T 43 N
T 42 N
T 41 N
T 40 N
T 39 N
T 38 N
T 37 N
T 36 N
T 35
Mining district
Abandoned or inactive surface mine
Mineral occurrence or prospect
Abandoned or inactive underground mine



Map 3-5
Uranium Mining Districts
Newcastle Field Office

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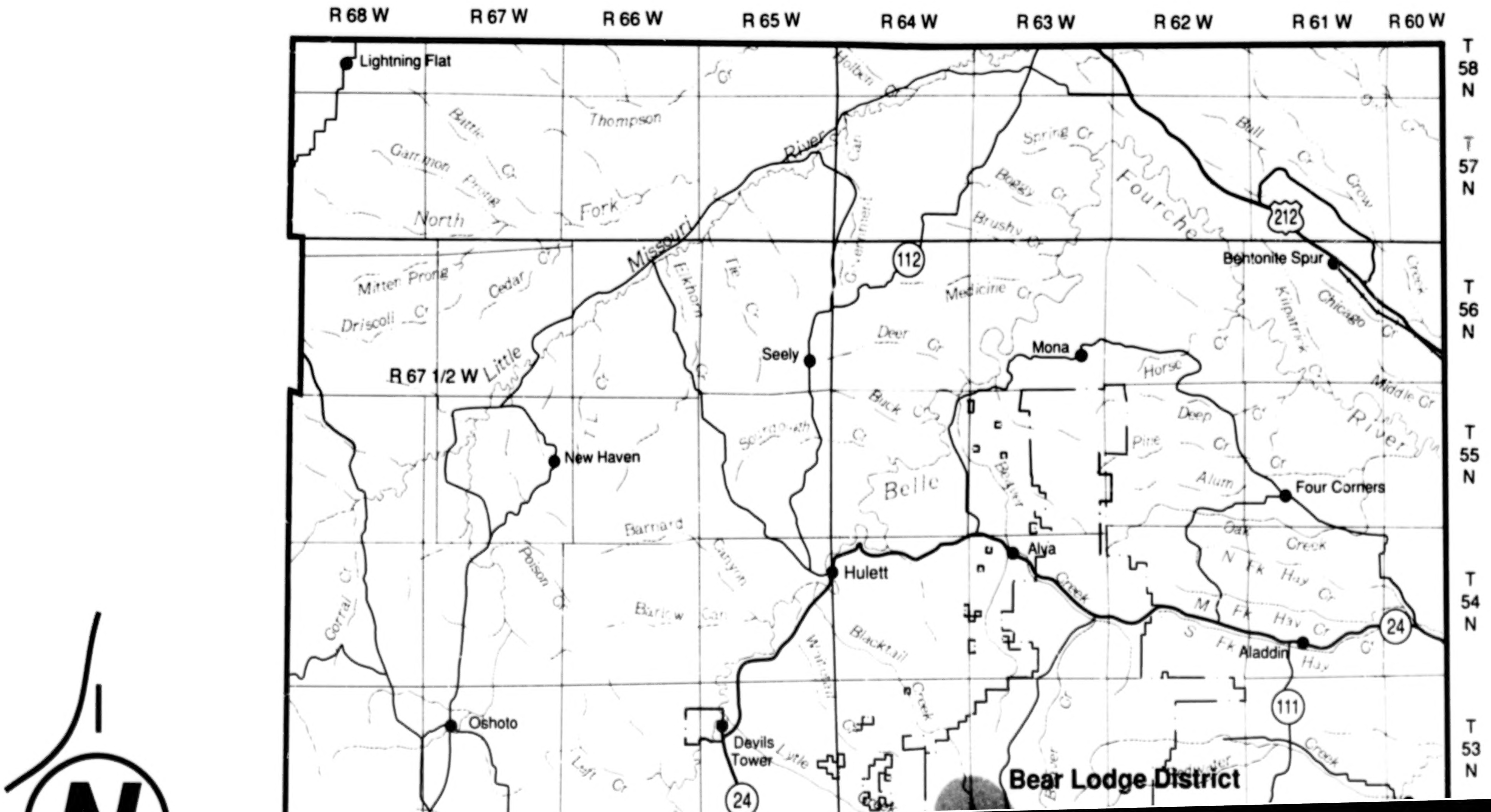
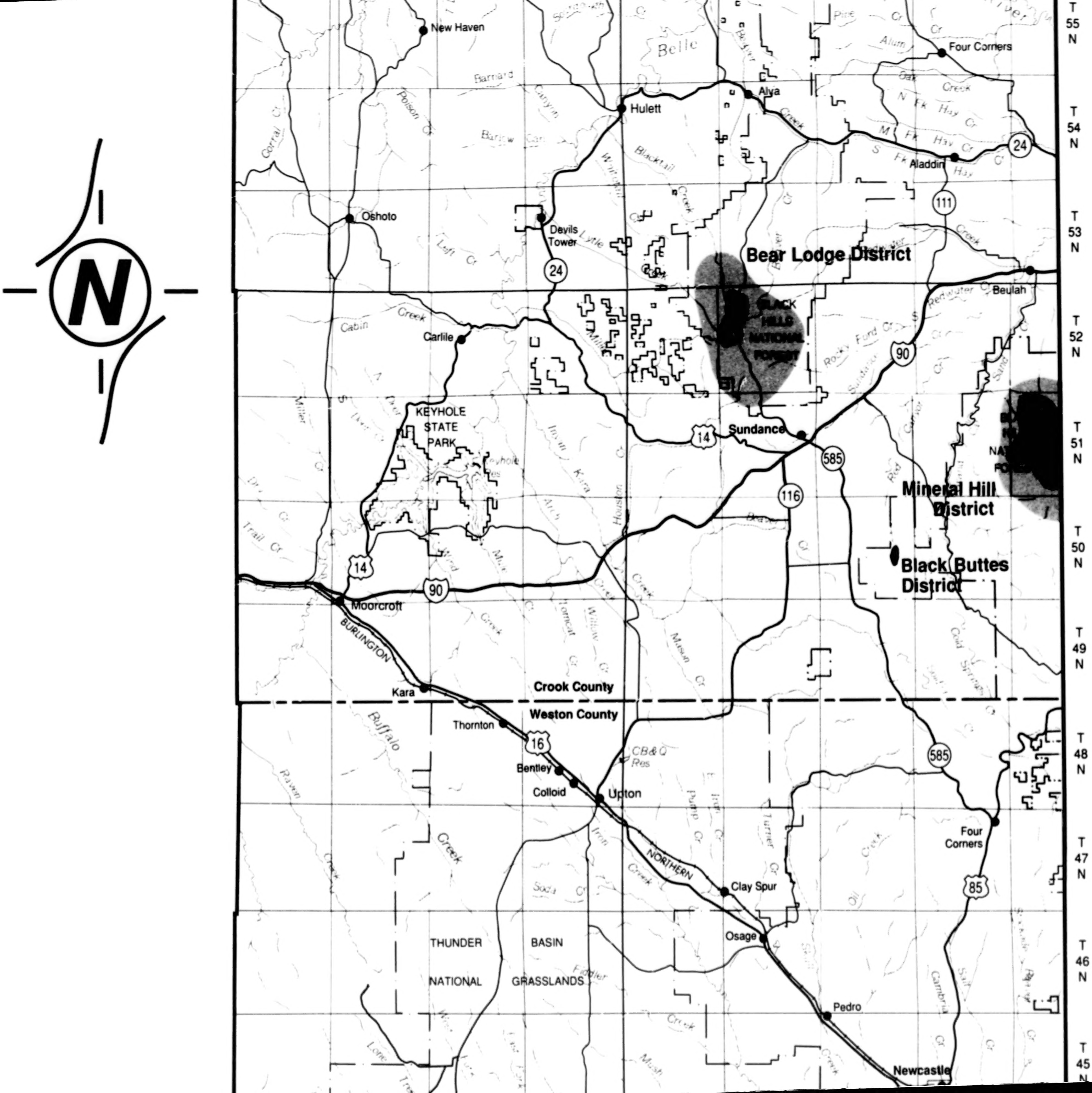
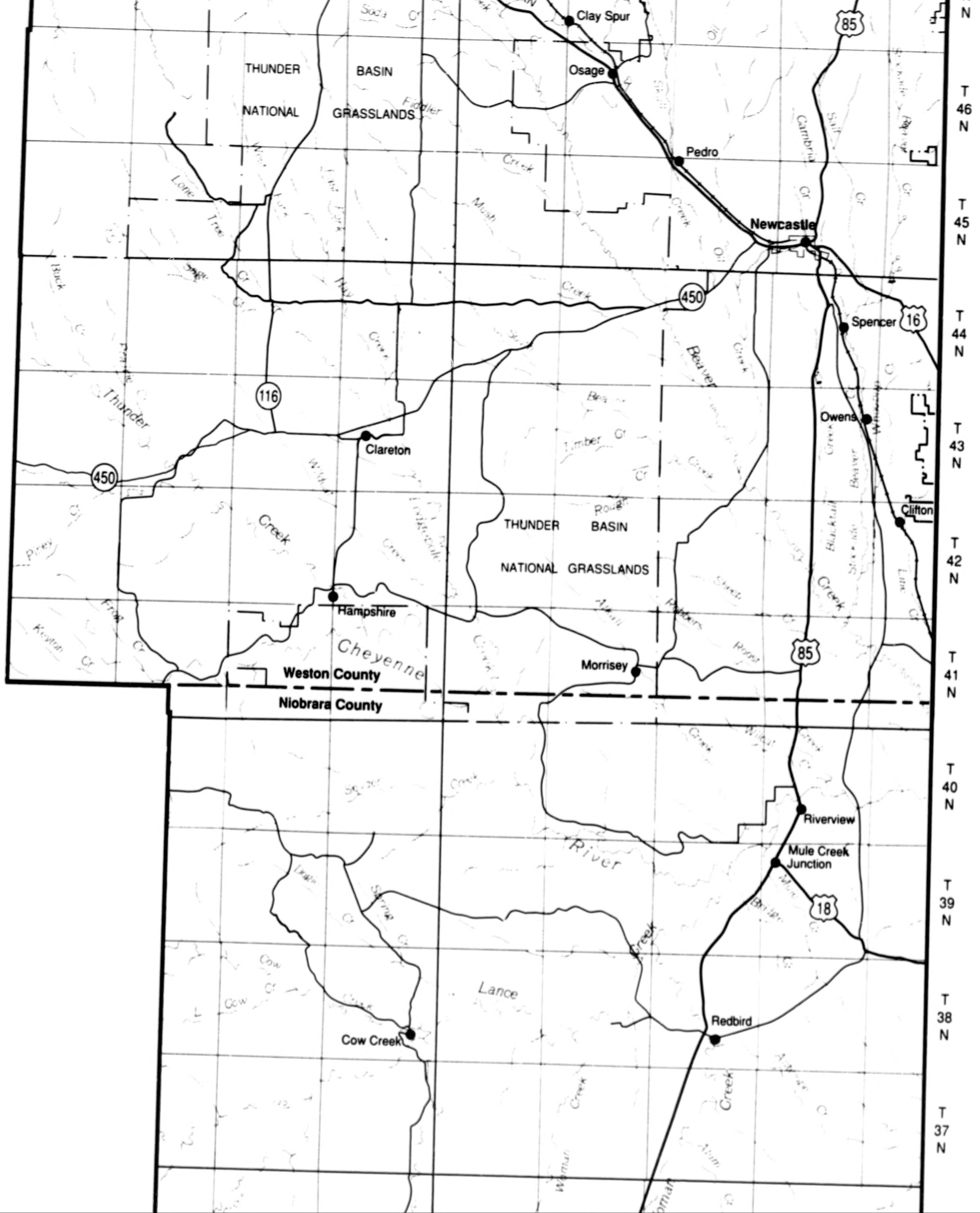
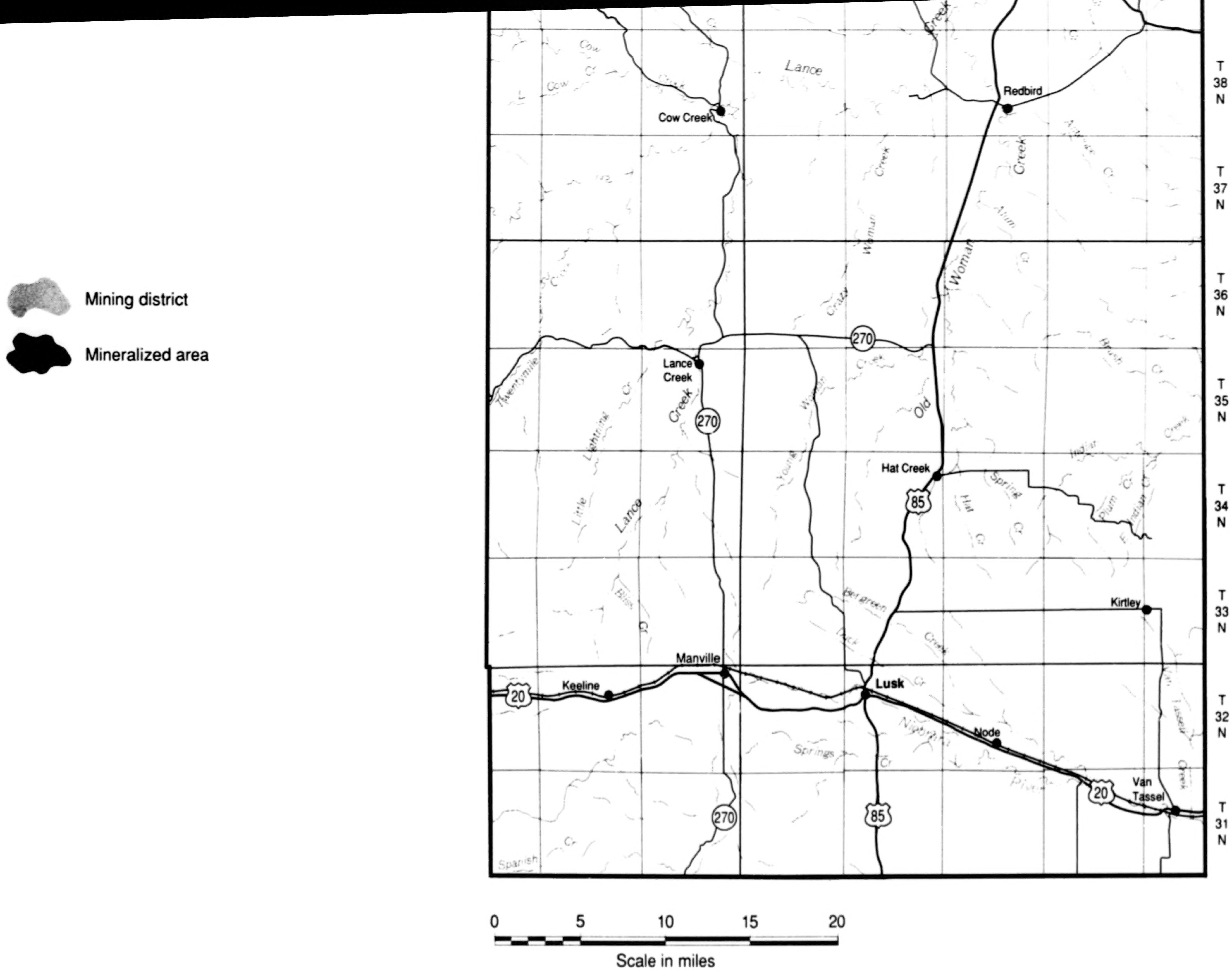

R 68 W
R 67 W
R 66 W
R 65 W
R 64 W
R 63 W
R 62 W
R 61 W
R 60 W
T 58 N
T 57 N
T 56 N
T 55 N
T 54 N
T 53 N
R 67 1/2 W
Lightning Flat
Battle Cr
Garrison Prong
North Fork
Thompson
Little Missouri River
Holben Cr
Spring Cr
Boggy Cr
Brushy Cr
Fourche
Bull Cr
Crow
212
Bentonite Spur
Chicago Cr
Kilpatrick
Creek
Mitten Prong
Cedar Cr
Driscoll Cr
Elkhorn
Tie Cr
112
Medicine Cr
Deer Cr
Seely
Mona
Horse
Middle Cr
River
Deep Cr
Pine Cr
Alum
Cr
Four Corners
Buck Cr
Belle
New Haven
Barnard
Oak Creek
N Fk Hay Cr
M Fk Hay Cr
S Fk
Aladdin
Hay Cr
24
Alva
Creek
Hulett
Canyon
Poison Cr
Barlow Can
Blacktail
Creek
Corral Cr
Oshoto
Devils Tower
Lytle
Left Cr
24
111
Creek
Bear Lodge District
N

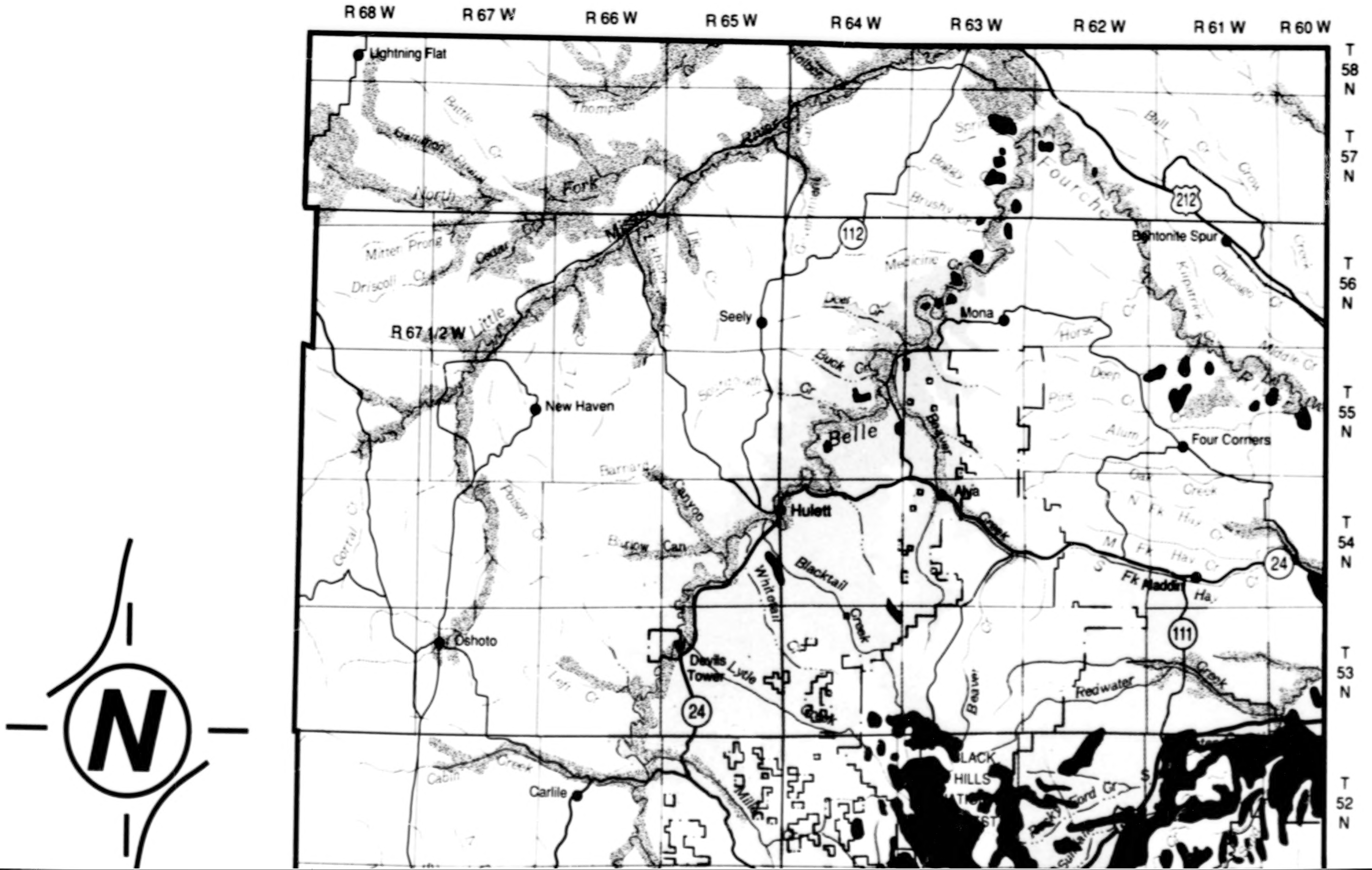

N
New Haven
Belle
Four Corners
Barnard
Poison Cr
Corral Cr
Hulett
Alva
Oak Creek
N Fk Hay Cr
M Fk Hay Cr
S Fk Hay
Aladdin
24
111
Blacktail Creek
Barlow Can
Oshoto
Devils Tower
Lytle Cr
Left Cr
Bear Lodge District
BLACK HILLS NATIONAL FOREST
Beulah
Redwater Cr
Cabin Creek
Carlile
Rocky Ford Cr
90
Sundance Cr
Sand Cr
Miller Cr
KEYHOLE STATE PARK
Keyhole Res
Kara Cr
Houston Cr
Sundance
14
585
116
Mineral Hill District
Black Buttes District
Trail Cr
Moorcroft
BURLINGTON
Mason Cr
Willow Cr
Tomcat Cr
Cold Springs Cr
Kara
Crook County
Weston County
Thornton
16
Buffalo Creek
Raven Creek
CB&Q Res
Bentley
Colloid
Upton
Iron Creek
NORTHERN
Pump Cr
Turner Cr
Oil Creek
Four Corners
85
Clay Spur
Soda Cr
Osage
THUNDER BASIN NATIONAL GRASSLANDS
Fiddler Creek
Pedro
Cambria Cr
Salt Cr
Lone Tree
Newcastle
T 55 N
T 54 N
T 53 N
T 52 N
T 51 N
T 50 N
T 49 N
T 48 N
T 47 N
T 46 N
T 45 N

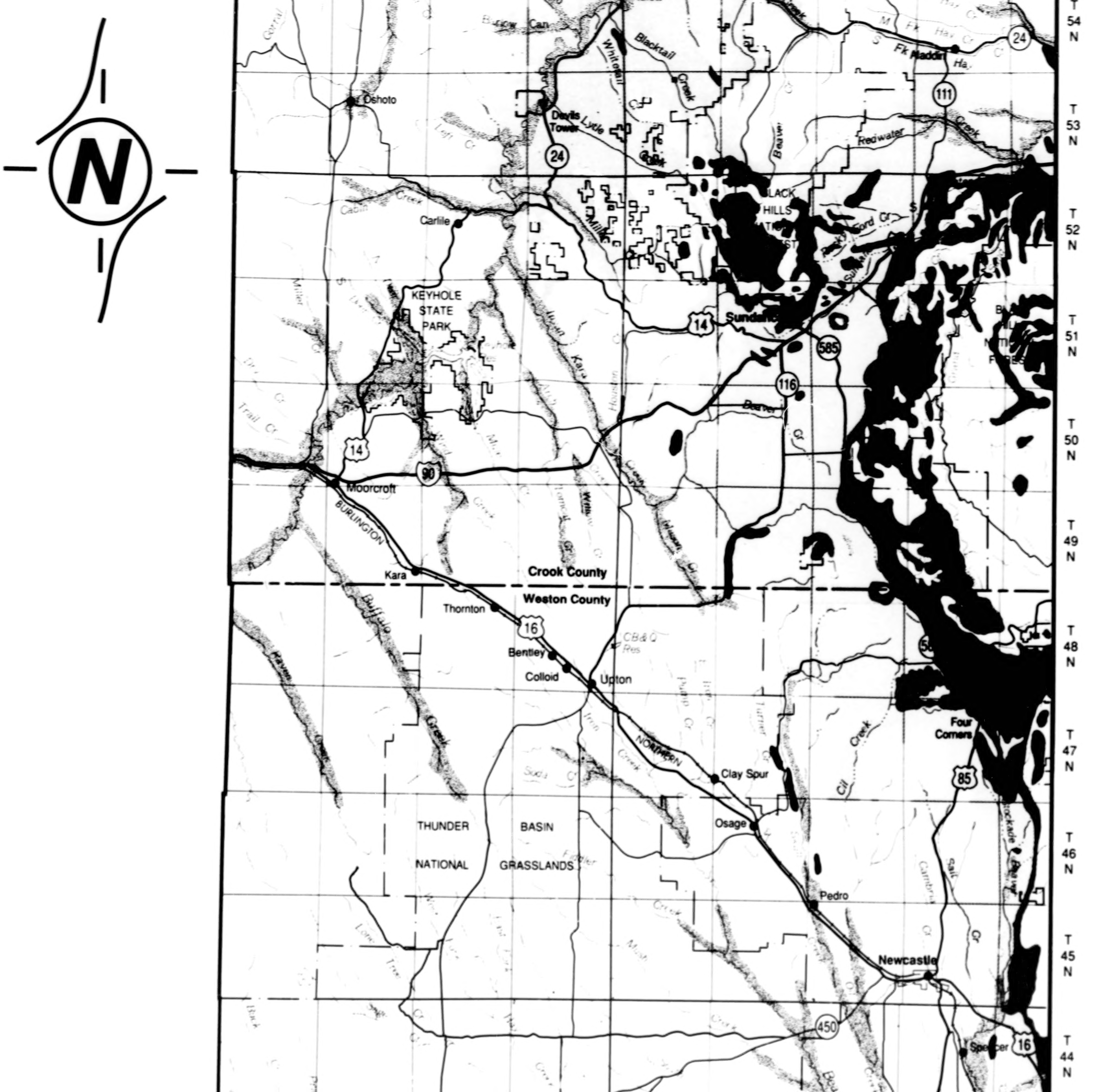

Clay Spur
85
Osage
THUNDER BASIN NATIONAL GRASSLANDS
Fiddler Creek
Pedro
Newcastle
Lone Tree
Oil Creek
Salt Creek
Cambria Cr
450
16
Spencer
116
Thunder
Clareton
Owens
Beaver Creek
Timber Cr
Clifton
Wildcat Creek
THUNDER BASIN NATIONAL GRASSLANDS
Blacktail
Stockade Beaver
Piney Cr
Hampshire
Cheyenne
Morrisey
Frog Cr
Keyton Cr
Weston County
Niobrara County
Riverview
River
Mule Creek Junction
18
Lance Creek
Cow Creek
Redbird
Old Woman Creek
T 46 N
T 45 N
T 44 N
T 43 N
T 42 N
T 41 N
T 40 N
T 39 N
T 38 N
T 37 N

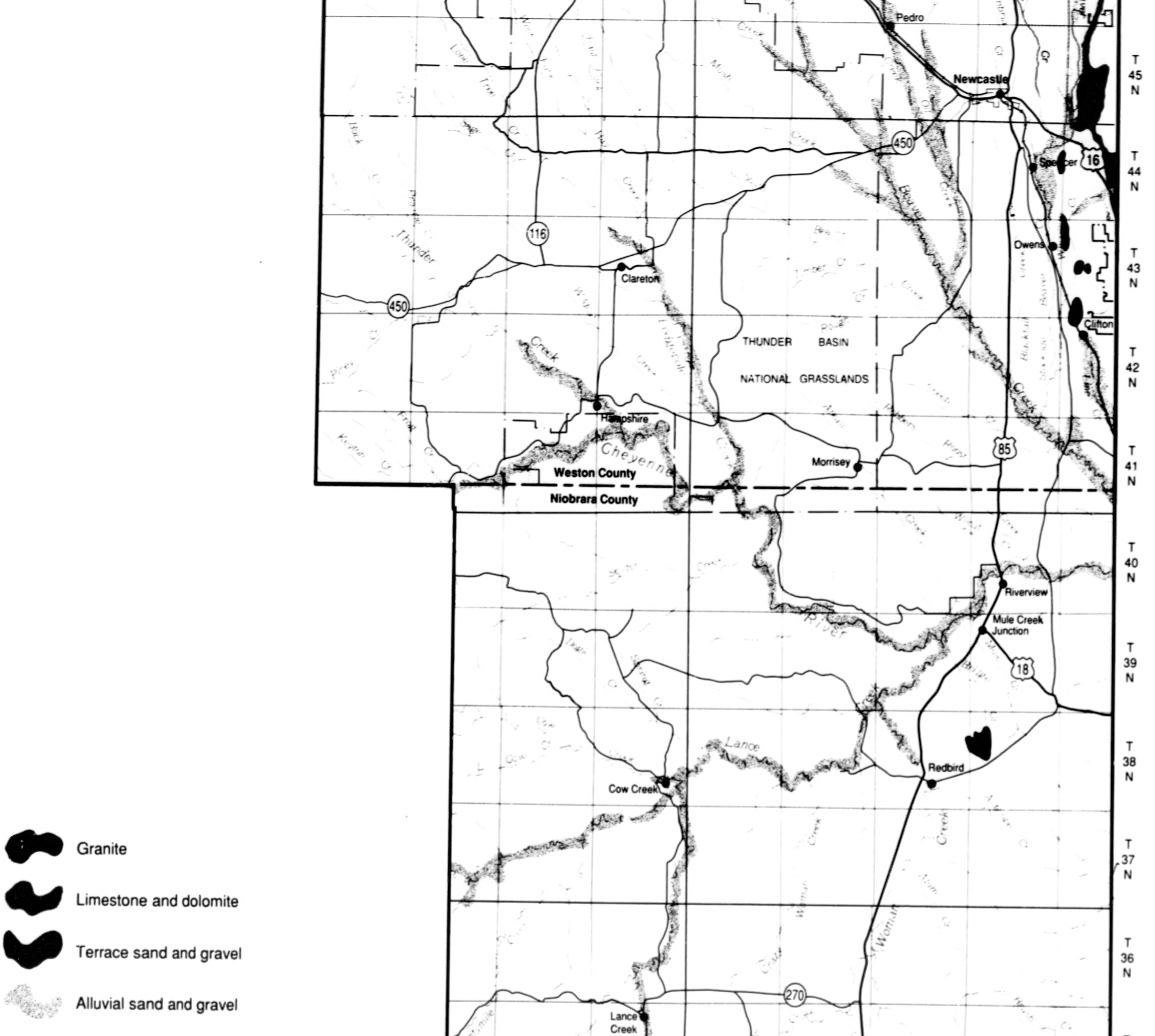


Map 3-6

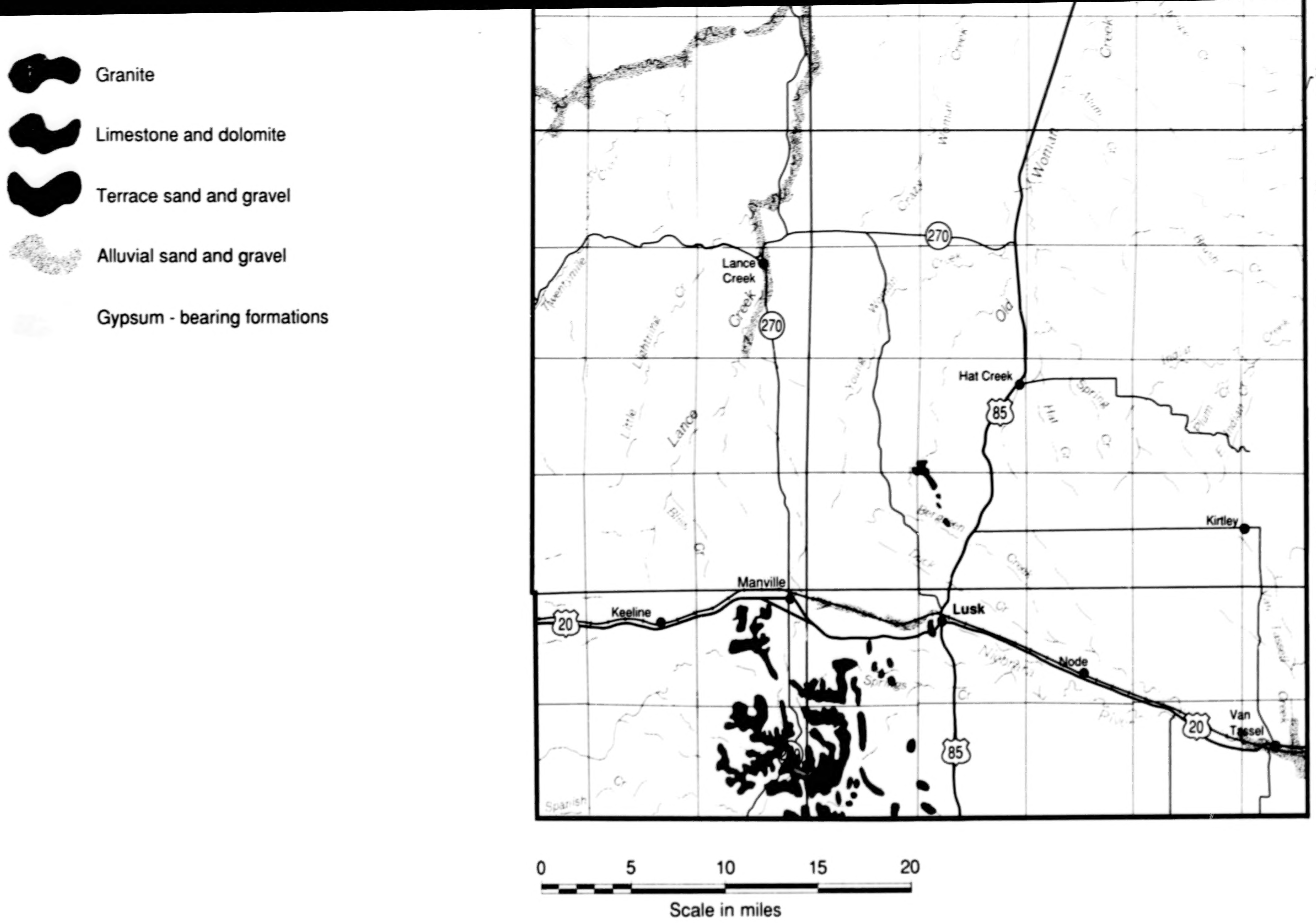
Metallic Mineral Areas


R 68 W
R 67 W
R 66 W
R 65 W
R 64 W
R 63 W
R 62 W
R 61 W
R 60 W
T 58 N
T 57 N
T 56 N
T 55 N
T 54 N
T 53 N
T 52 N
R 67 1/2 W
Lightning Flat
Thompson
North Fork
Little Missouri
Mitten Prong
Cedar Cr
Driscoll Cr
Elkhorn
112
212
Fourche
Bentonite Spur
Seely
Mona
New Haven
Belle
Buck Cr
Horse
Deep
Pine
Alum
Four Corners
Barnard Canyon
Hulett
Alva
Oak Creek
N Fk Hay Cr
M Fk Hay Cr
S Fk Hay Cr
Aladdin
24
Corral Cr
Poison Cr
Blacktail Creek
Whitetail
Oshoto
Devils Tower
Lytle Creek
111
Redwater Creek
Beaver
BLACK HILLS
Rocky Ford Cr
Cabin Creek
Carlile
Miller
N

N
T 54 N
T 53 N
T 52 N
T 51 N
T 50 N
T 49 N
T 48 N
T 47 N
T 46 N
T 45 N
T 44 N
Oshoto
Devils Tower
Blacktail
Whitetail
Creek
Lytle
Redwater
Beaver
Haddin
24
111
Carlile
Cabin Creek
BLACK HILLS NATIONAL FOREST
Sand Creek
Sundance
14
585
116
KEYHOLE STATE PARK
Miller
Houston
Kara
Beaver
Cr
14
90
Moorcroft
BURLINGTON
NORTHERN
Kara
Crook County
Weston County
Thornton
16
Bentley
Colloid
Upton
CB&Q Res
Buffalo
Creek
Iron
Creek
Clay Spur
Oil Creek
Four Corners
85
Osage
THUNDER BASIN NATIONAL GRASSLANDS
Pedro
Newcastle
Cambria
Salt
Stockade Beaver
450
Spencer
16



Pedro
Newcastle
Spencer
16
450
116
Clareton
Owens
Clifton
THUNDER BASIN
NATIONAL GRASSLANDS
Hampshire
Cheyenne
Weston County
Niobrara County
Morrisey
85
Riverview
Mule Creek Junction
River
18
Lance
Redbird
Cow Creek
270
Lance Creek
Thunder
Creek
Beaver
Woman
T 45 N
T 44 N
T 43 N
T 42 N
T 41 N
T 40 N
T 39 N
T 38 N
T 37 N
T 36 N
Granite
Limestone and dolomite
Terrace sand and gravel
Alluvial sand and gravel



Map 3-7

Mineral Materials

Newcastle Field Office

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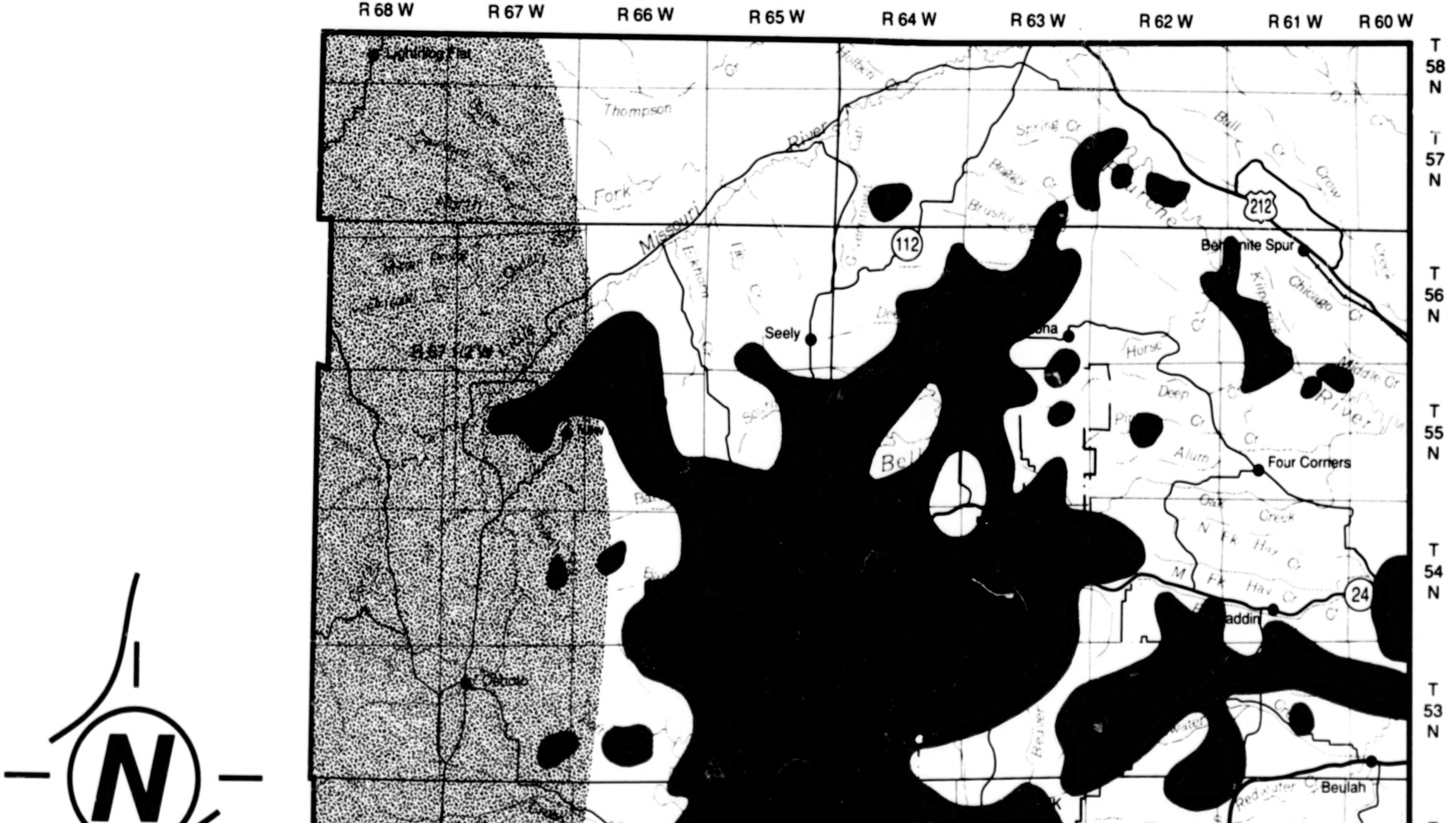
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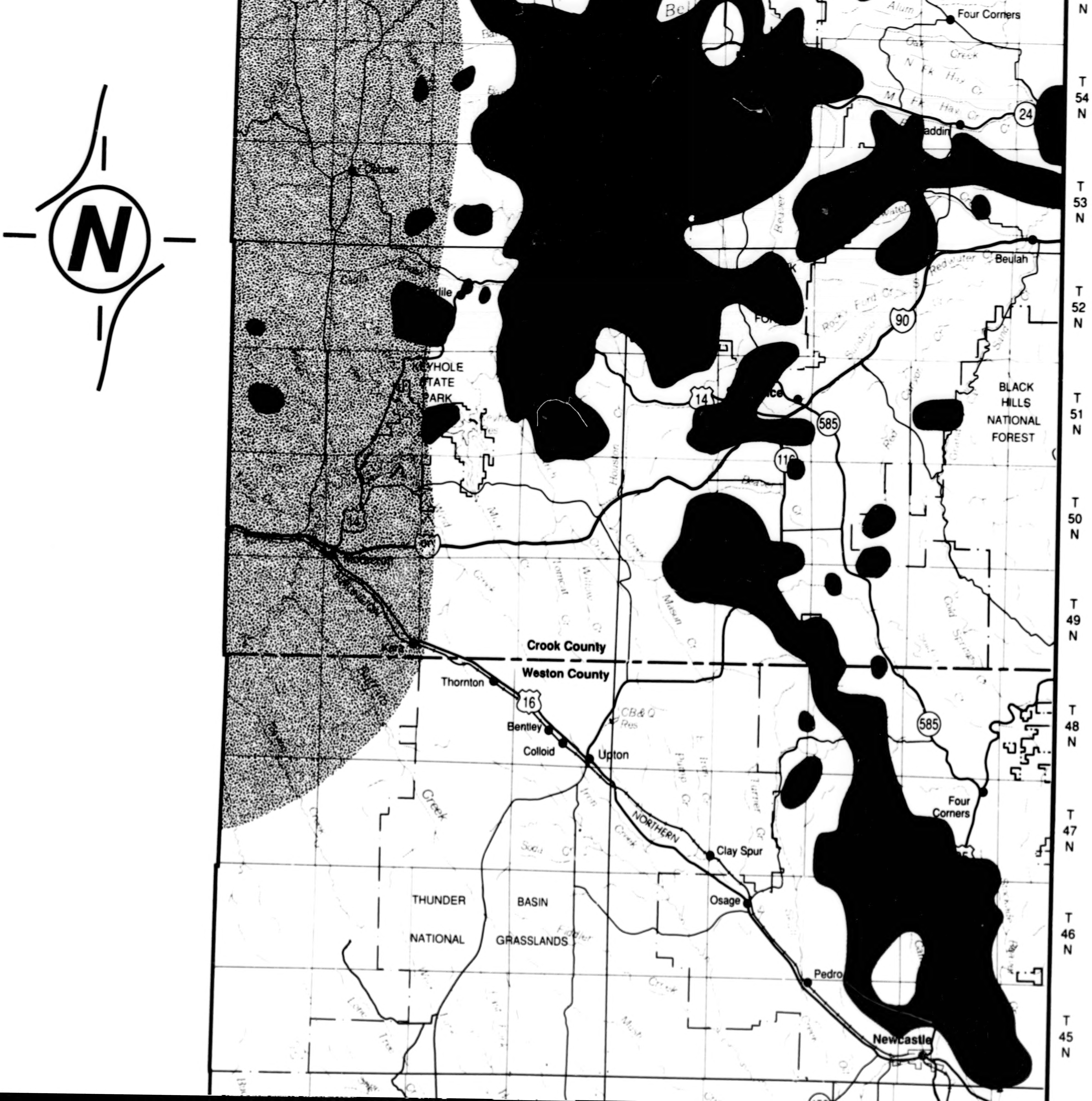
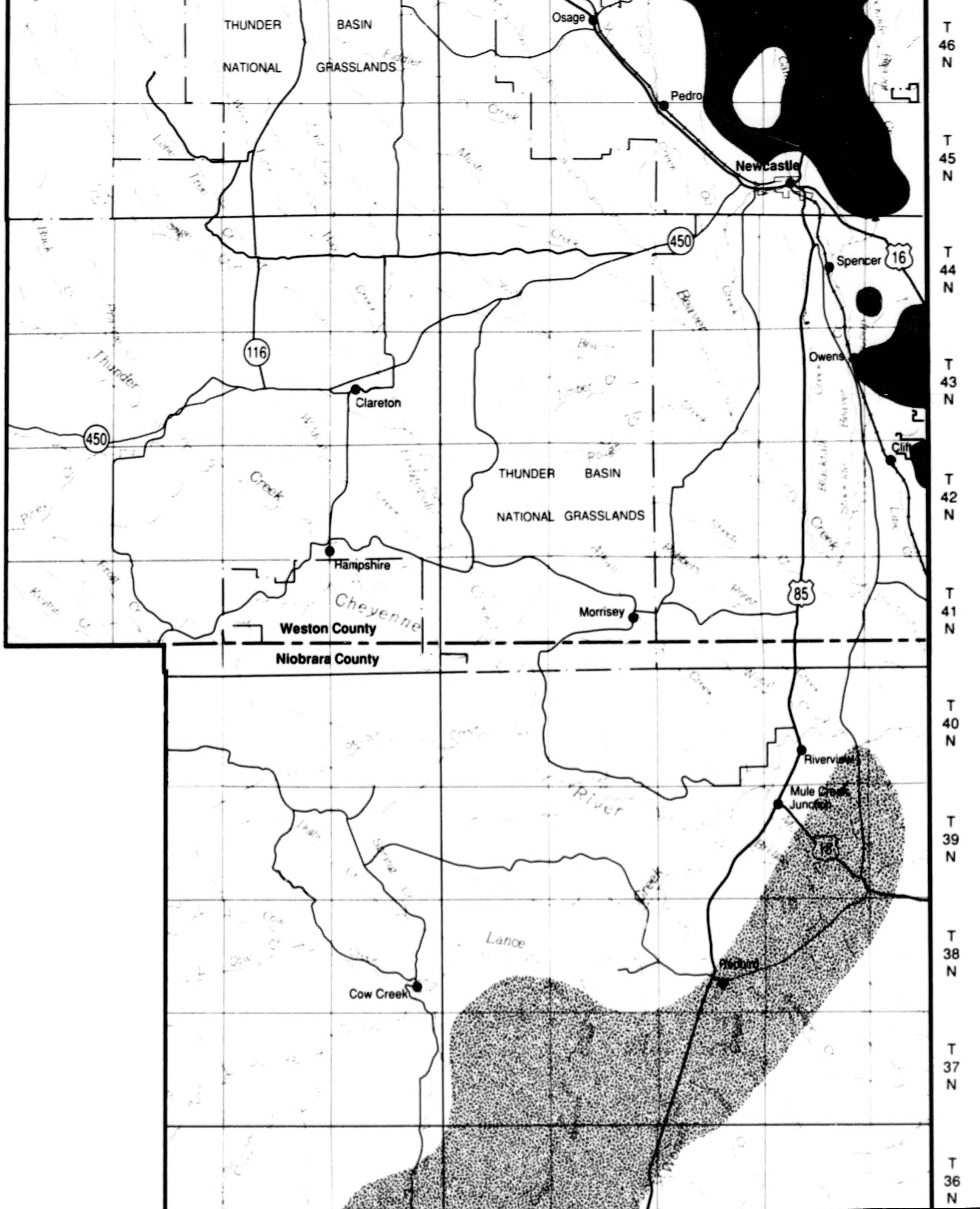
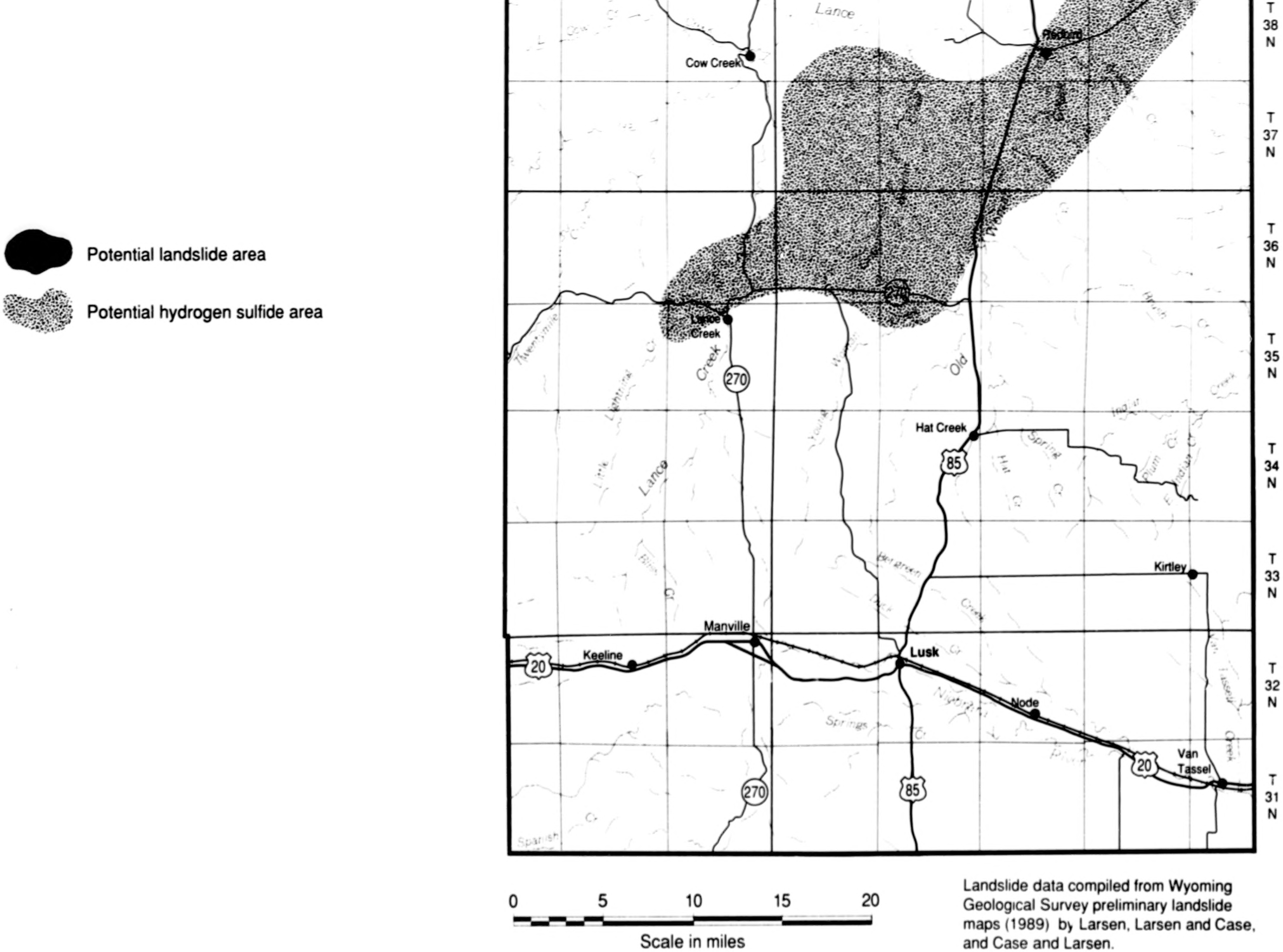
R 67 W
R 66 W
R 65 W
R 64 W
R 63 W
R 62 W
R 61 W
R 60 W
T 58 N
T 57 N
T 56 N
T 55 N
T 54 N
T 53 N
Lightning Flat
R 67 1/2 W
Thompson
Fork
Missouri
River
Elkhorn
Holben
Spring Cr
Boggy Cr
Brushy
Bull Cr
Crow
212
112
Seely
Bentonite Spur
Kilpatrick
Chicago Cr
Horse
Deep Cr
Middle Cr
River
Alum
Four Corners
Oak Creek
N Fk Hay Cr
M Fk Hay Cr
24
Aladdin
Redwater
Beulah
Belle
N


N
Four Corners
Oak Creek
N Fk Hay Cr
M Fk Hay Cr
24
Aladdin
T 54 N
T 53 N
Redwater
Beulah
T 52 N
Rocky Ford Cr
90
Oshoto
Carlile
KEYHOLE STATE PARK
14
585
116
BLACK HILLS NATIONAL FOREST
T 51 N
T 50 N
T 49 N
Kara
Crook County
Weston County
Thornton
16
Bentley
Colloid
Upton
CB&Q Res
585
T 48 N
Four Corners
T 47 N
NORTHERN
Clay Spur
Osage
THUNDER BASIN NATIONAL GRASSLANDS
T 46 N
Pedro
Newcastle
T 45 N
Houston Cr
Mason Cr
Iron Creek
Soda Cr
Pump Cr
Turner Cr
Fiddler Creek

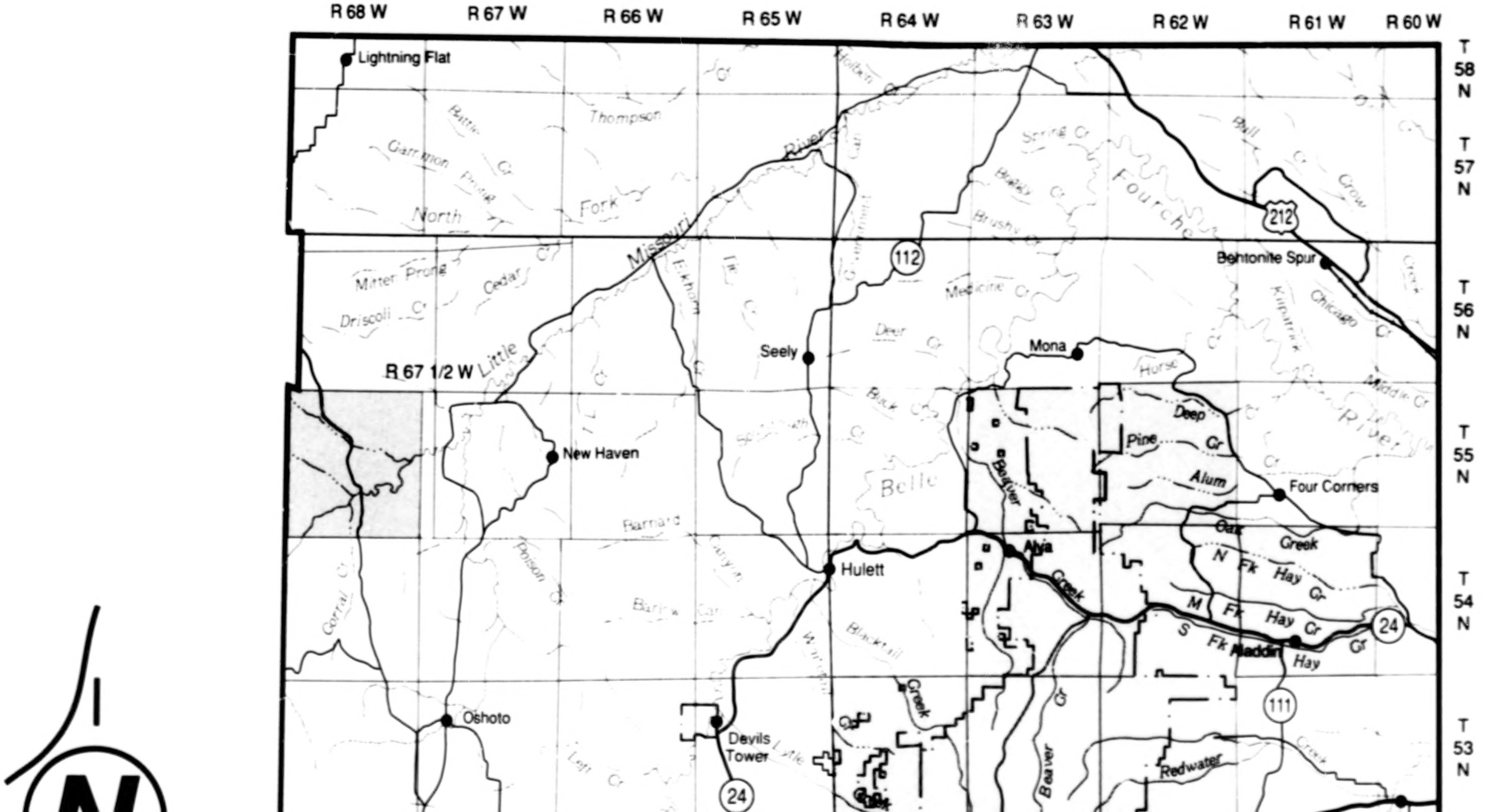


● Potential landslide area



Landslide data compiled from Wyoming Geological Survey preliminary landslide maps (1989) by Larsen, Larsen and Case, and Case and Larsen.

Map 3-8
Generalized Geologic Hazards
Newcastle Field Office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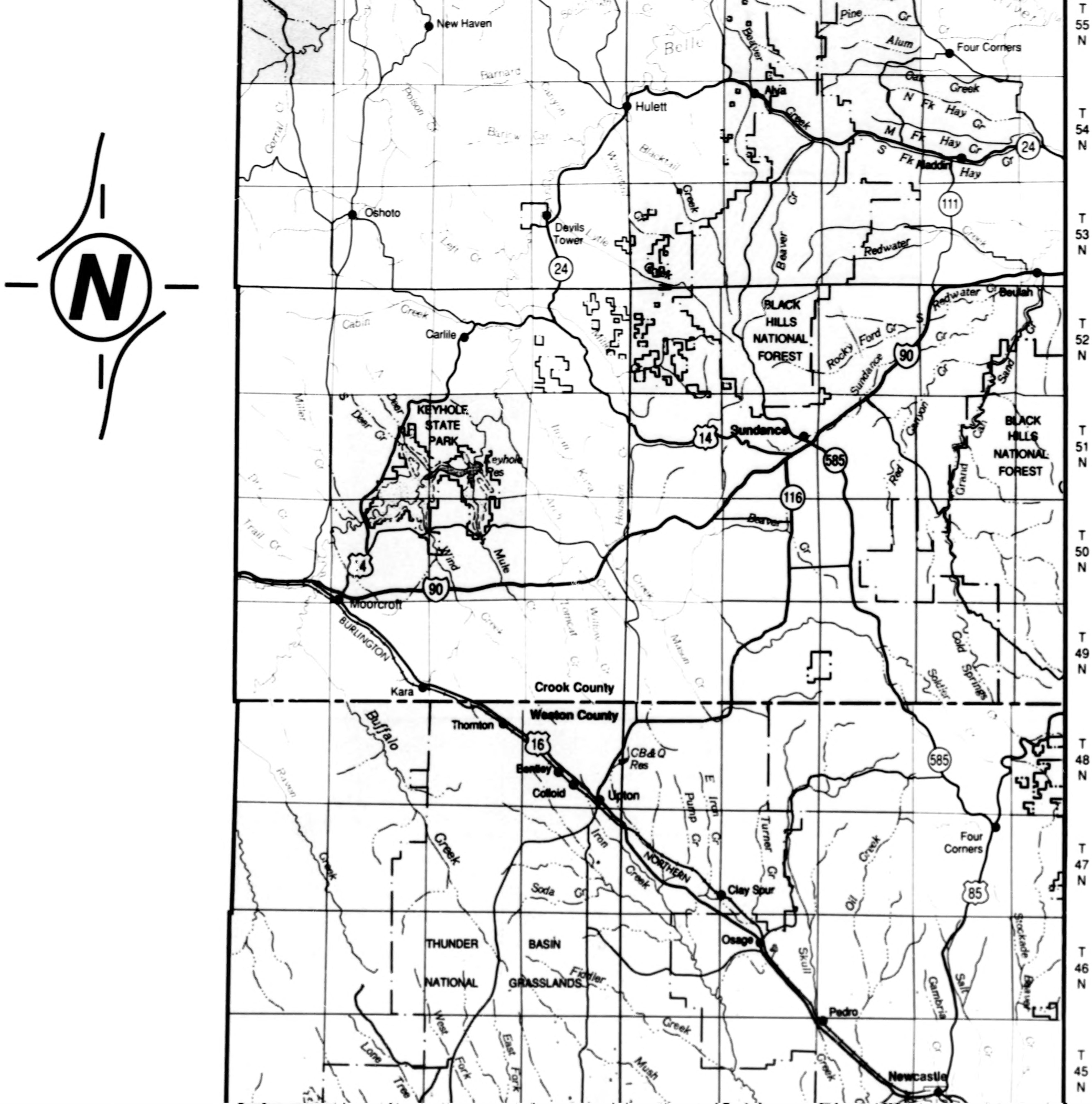
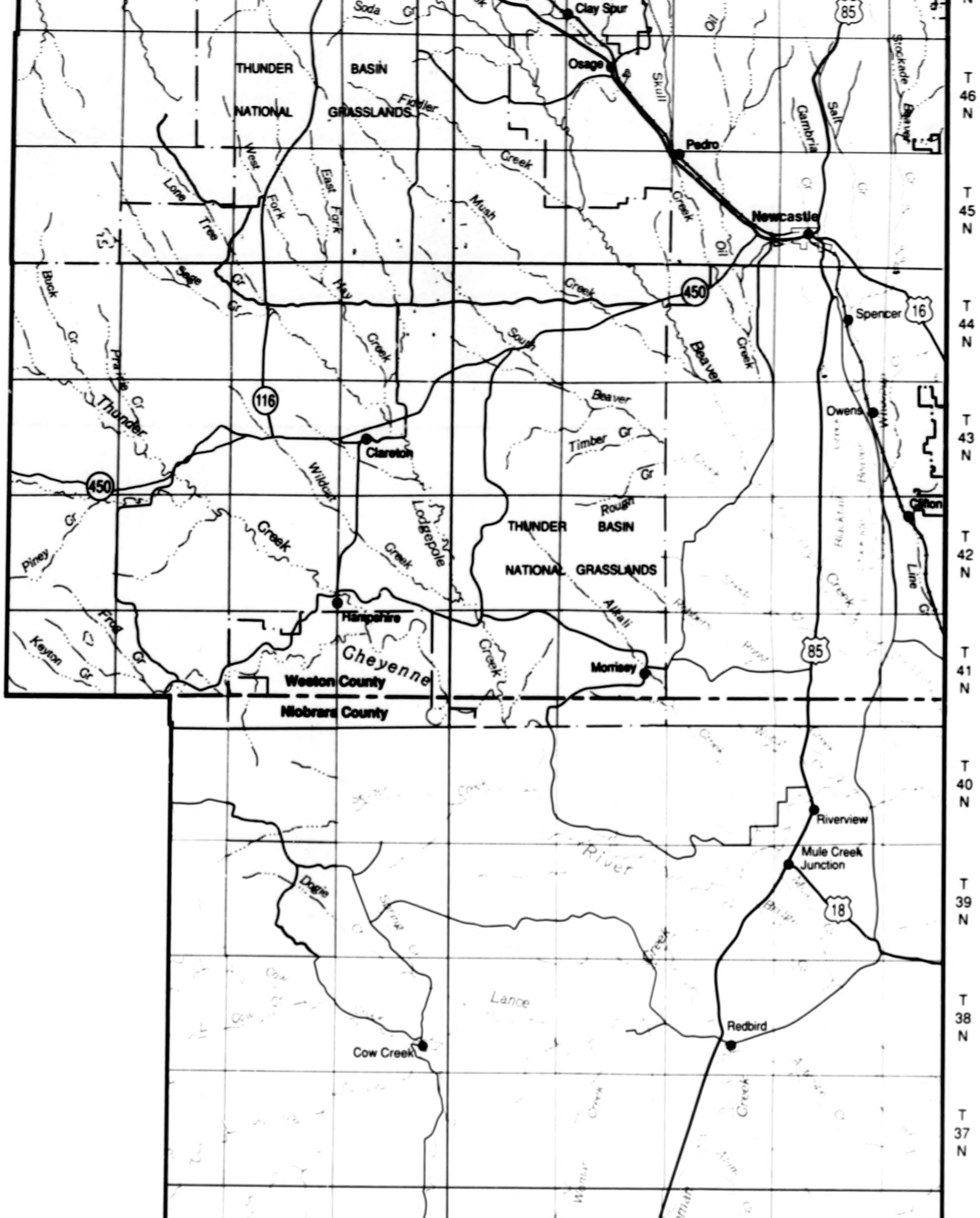
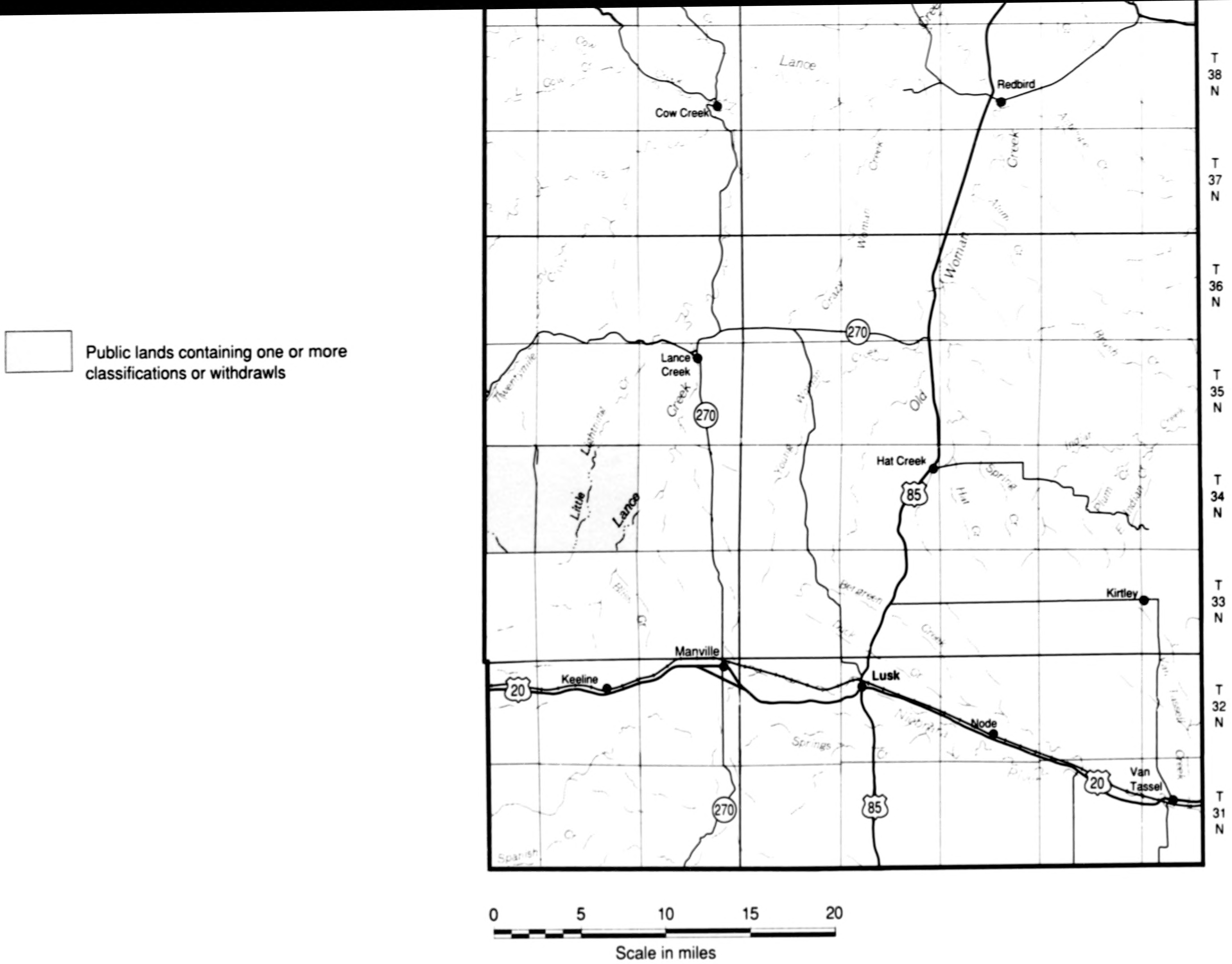
R 67 W
R 66 W
R 65 W
R 64 W
R 63 W
R 62 W
R 61 W
R 60 W
T 58 N
T 57 N
T 56 N
T 55 N
T 54 N
T 53 N
R 67 1/2 W
Lightning Flat
Thompson
Battle Cr
Garrison Prong
North Fork
Little Missouri River
Miller Prong
Cedar Cr
Driscoll Cr
Elkhorn
Seely
112
Spring Cr
Bailey Cr
Brushy Cr
Fourche
Bull Cr
Crow
212
Bentonite Spur
Medicine Cr
Deer Cr
Kilpatrick
Chicago Cr
Mona
Horse
Middle Cr
River
Buck Cr
Deep
Pine Cr
Alum
Belle
New Haven
Four Corners
Barnard
Beaver
Alva
Oak Creek
N Fk Hay Cr
Hulett
Creek
M Fk Hay Cr
S Fk Hay Cr
Aladdin
24
Corral Cr
Dolson Cr
Canyon
Barlow Can
Blacktail
Warren
Creek
111
Oshoto
Devils Tower
Little
Beaver Cr
Redwater
Creek
24
N

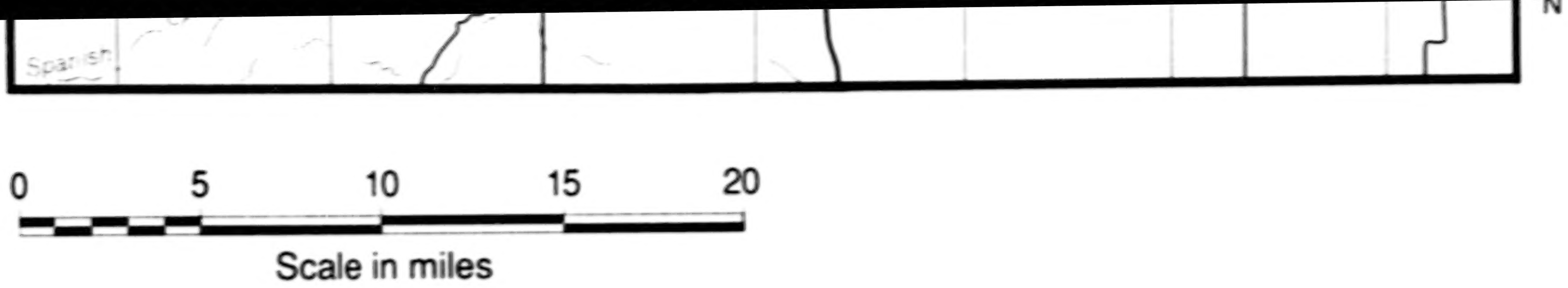

N
New Haven
Four Corners
Hulett
Alva
Aladdin
Oshoto
Devils Tower
Carlile
BLACK HILLS NATIONAL FOREST
Beulah
KEYHOLE STATE PARK
Keyhole Res
Sundance
Moorcroft
BURLINGTON
Kara
Crook County
Weston County
Thornton
Bentley
Colloid
Upton
CB&Q Res
NORTHERN
Clay Spur
Osage
THUNDER BASIN NATIONAL GRASSLANDS
Pedro
Newcastle
Four Corners
24
111
90
14
585
116
4
16
85
Pine Cr
Alum Cr
Oak Creek
N Fk Hay Cr
M Fk Hay Cr
S Fk Hay Cr
Redwater Creek
Beaver Cr
Blacktail Creek
Rocky Ford Cr
Sand Cr
Red Canyon
Grand Canyon
Cold Springs
Deer Cr
Cabin Creek
Miller
Trail Cr
Wind
Mule
Buffalo Creek
Iron Creek
E Iron Cr
Pump Cr
Turner Cr
Oil Creek
Soda Cr
Fiddler Creek
Skull Creek
Gambria
Salt
Stockade Beaver
West Fork
East Fork
Lone Tree
Mush Creek
T 55 N
T 54 N
T 53 N
T 52 N
T 51 N
T 50 N
T 49 N
T 48 N
T 47 N
T 46 N
T 45 N


Clay Spur
85
Soda Cr
Osage
Oil
Skull
Stockade
Beaver
Salt
Cambria
Pedro
THUNDER BASIN NATIONAL GRASSLANDS
Fiddler
Creek
West Fork
East Fork
Lone Tree
Mush
Creek
Newcastle
Oil
Sage Cr
Hay Creek
Creek
450
Spencer
16
Buck Cr
Prairie Cr
Thunder
South
Beaver
Creek
116
Beaver
Owens
Timber Cr
Clareton
Wildcat
Lodgepole
Rough Cr
450
Clifton
Piney Cr
Creek
Creek
THUNDER BASIN NATIONAL GRASSLANDS
Alkali
Line Cr
Hampshire
Keyton Cr
Frog Cr
Cheyenne
Creek
Morrissey
85
Weston County
Niobrara County
Riverview
Mule Creek Junction
River
Dogie
18
Creek
Lance
Redbird
Cow Creek
Creek
Creek
T 46 N
T 45 N
T 44 N
T 43 N
T 42 N
T 41 N
T 40 N
T 39 N
T 38 N
T 37 N



Map 3-15

Existing Classifications and Withdrawals



Map 3-15
Existing Classifications and Withdrawals
Newcastle Field Office

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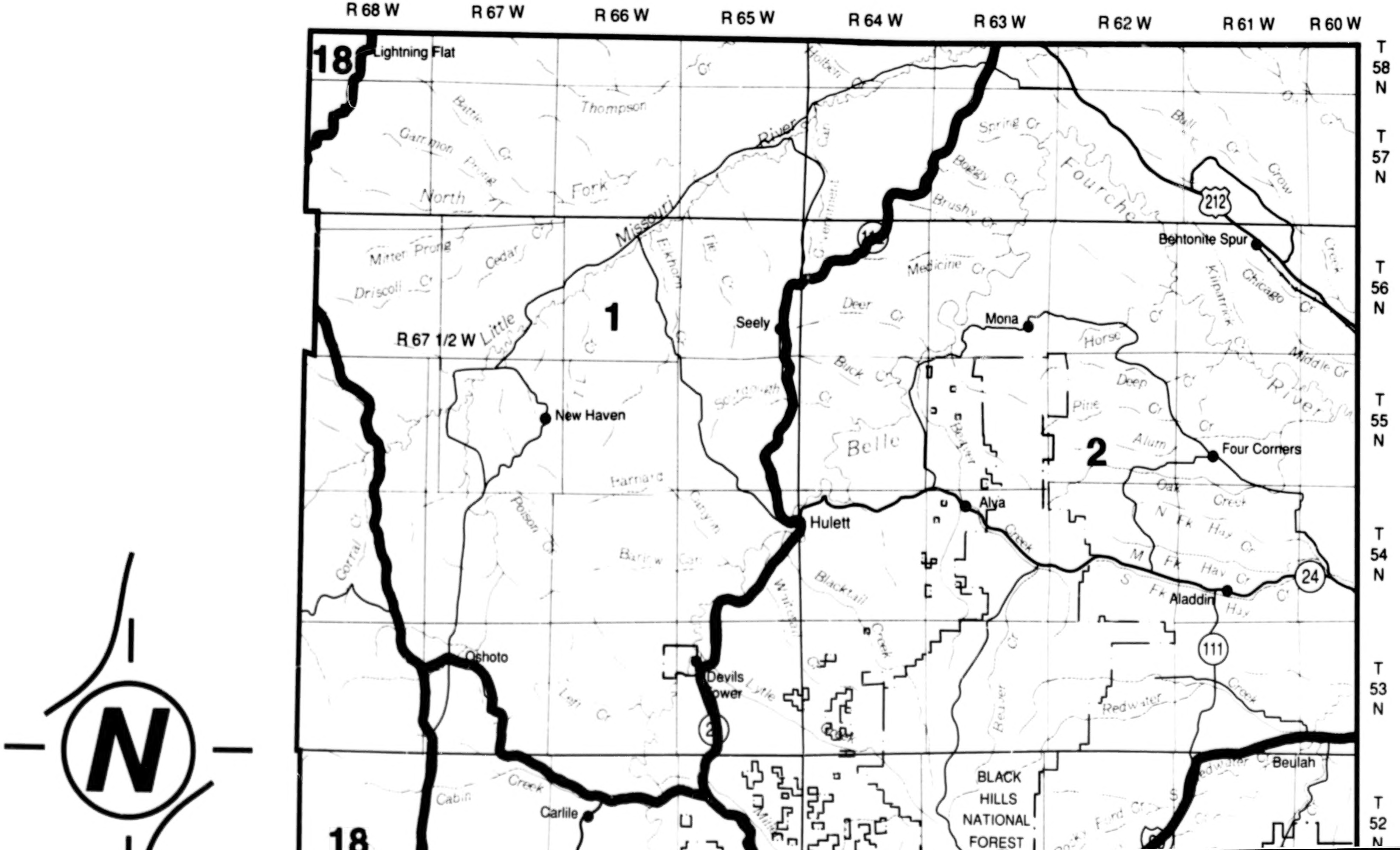
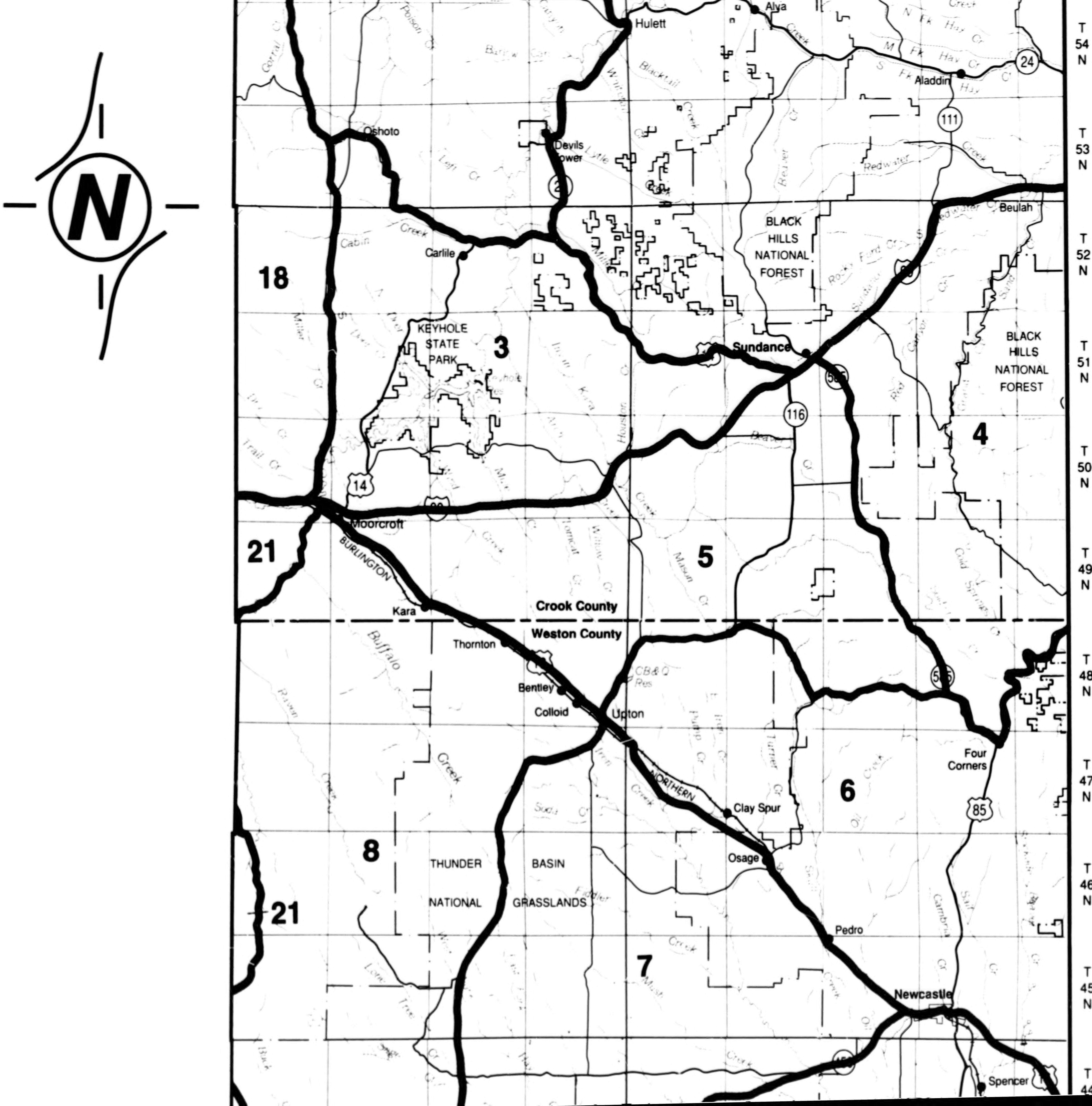
9


R 68 W
R 67 W
R 66 W
R 65 W
R 64 W
R 63 W
R 62 W
R 61 W
R 60 W
T 58 N
T 57 N
T 56 N
T 55 N
T 54 N
T 53 N
T 52 N
18
Lightning Flat
Thompson
Garrigon Prong
Battle Cr
North Fork
Missouri
River
Little
Mitter Prong
Driscoll Cr
Cedar Cr
R 67 1/2 W
1
Elkhorn
Seely
New Haven
Barnard
Poison Cr
Canyon
Barlow Can
Corral Cr
Oshoto
Devils Tower
Lytle
Cr
Cabin Creek
Carlile
18
Holben Cr
Spring Cr
Boggy Cr
Brushy Cr
Fourche
Bull Cr
Crow
212
Bentonite Spur
Medicine Cr
Deer Cr
Mona
Horse
Buck Cr
Belle
Deep
Pine
Alum
Cr
2
Four Corners
Kilpatrick
Chicago Cr
Middle Cr
River
Oak Creek
N Fk Hay Cr
M Fk Hay Cr
S Fk Hay Cr
Aladdin
24
Alva
Creek
Hulett
Blacktail
Creek
Redwater
Creek
111
Beulah
Redwater Cr
BLACK HILLS NATIONAL FOREST
2
N

N
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Aladdin
24
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Oshoto
Devils Tower
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Beulah
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Carlile
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3
Sundance
585
116
BLACK HILLS NATIONAL FOREST
4
14
90
Moorcroft
BURLINGTON
21
5
Kara
Crook County
Weston County
Thornton
CB&Q Res
Bentley
Colloid
Upton
585
Four Corners
NORTHERN
Clay Spur
6
85
8
THUNDER NATIONAL
BASIN GRASSLANDS
Osage
21
Pedro
7
Newcastle
450
Spencer
T 54 N
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T 47 N
T 46 N
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T 44
Buffalo Creek
Redwater Creek
Beaver Cr
Cabin Creek
Miller Cr
Houston Cr
Mason Cr
Oil Creek
Cambria Cr
Salt Cr
Turner Cr
Iron Creek
Fiddler Creek
Soda Cr
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Blacktail Creek
Lytle
Corral Cr
Poison Cr
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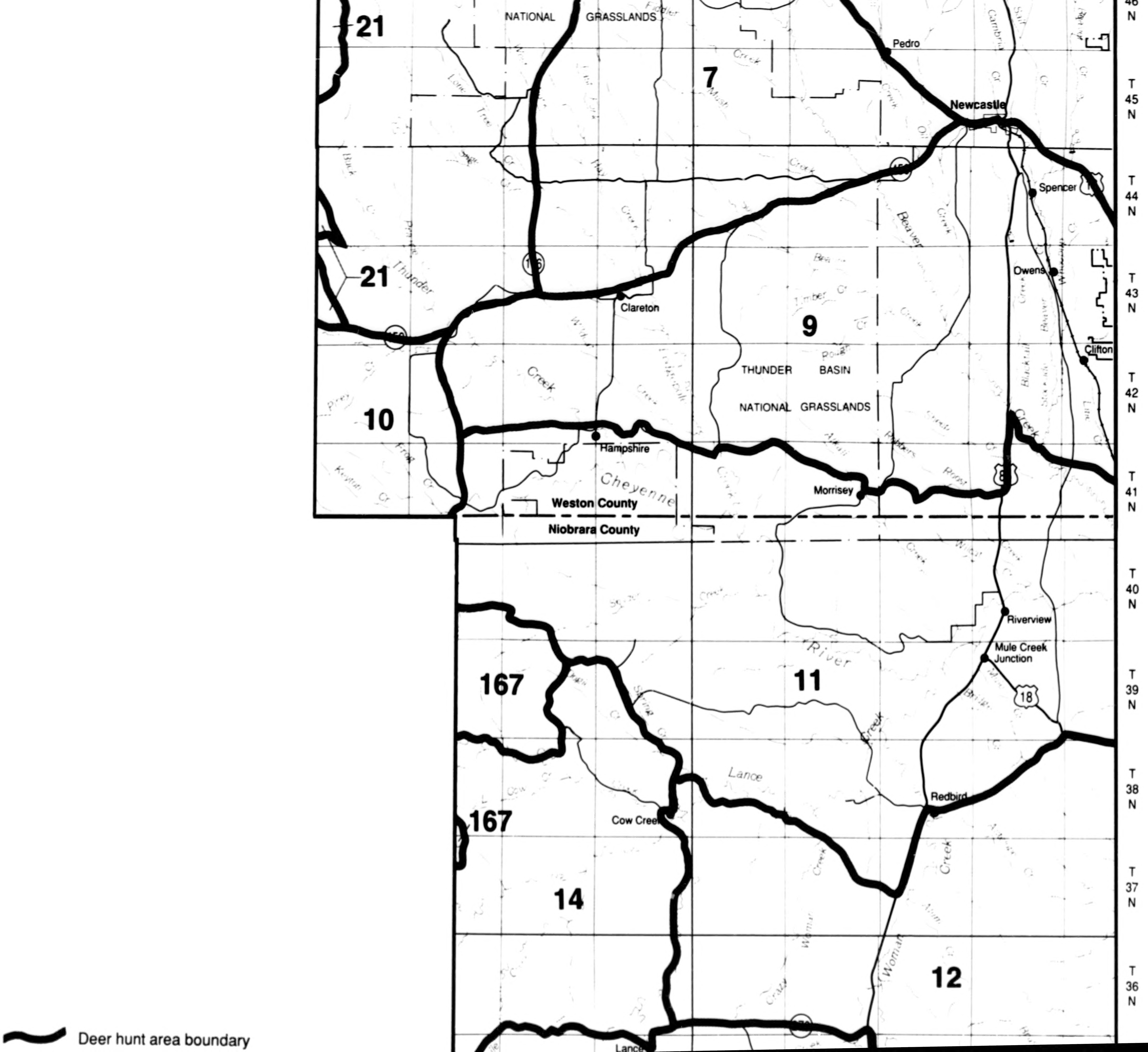
Cold Springs
Willow Cr
Tomcat Cr
Raven Cr
Trail Cr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Pedro
Newcastle
Spencer
Clareton
21
Thunder
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Clifton
10
Hampshire
Cheyenne
Morrisey
Weston County
Niobrara County
Riverview
Mule Creek Junction
18
River
11
167
Lance
Creek
Redbird
167
Cow Creek
14
12
Woman
Lance
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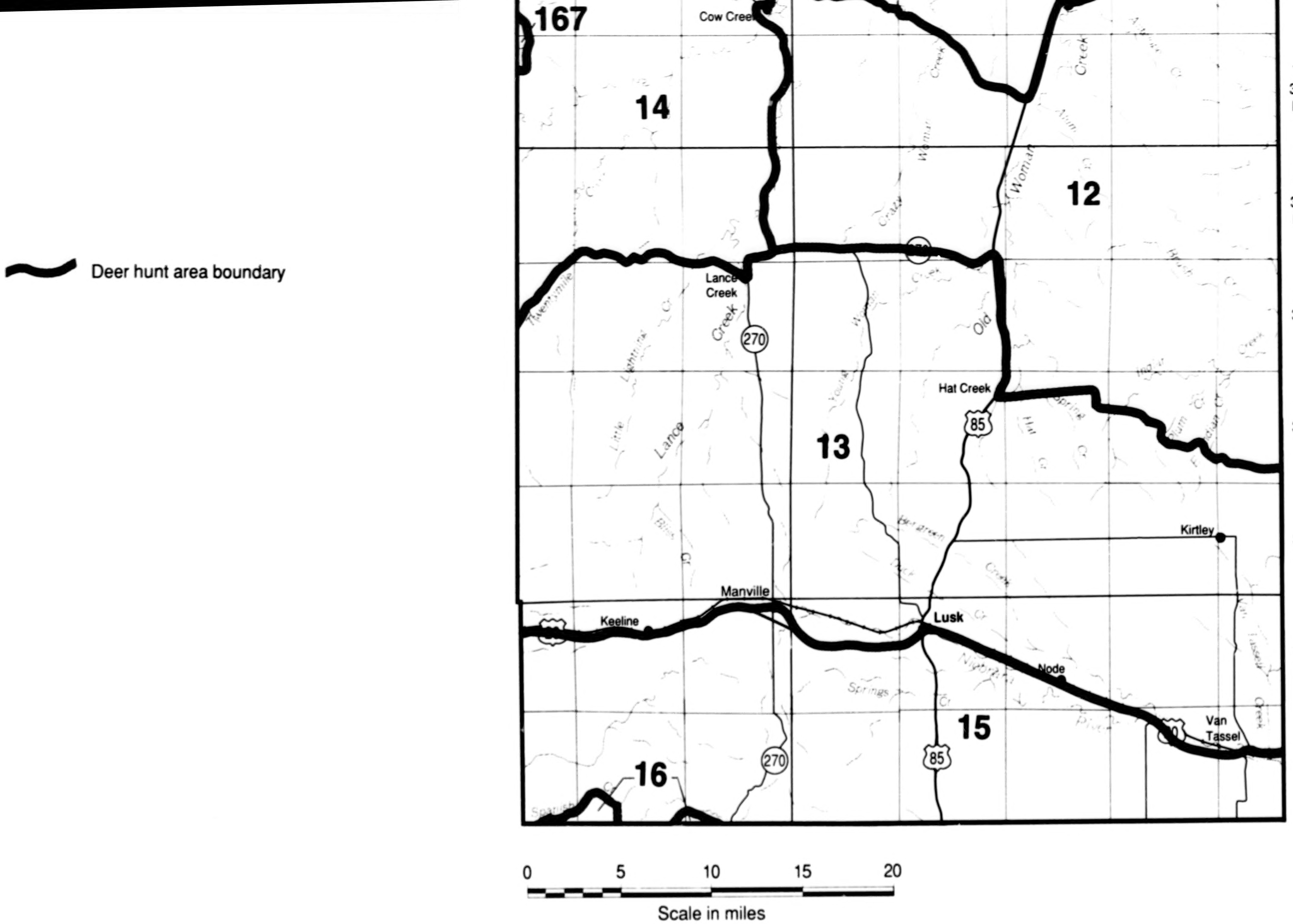
T 38 N
T 37 N
T 36 N
Deer hunt area boundary



Map 3-16

Deer Hunt Areas

Newcastle Field Office

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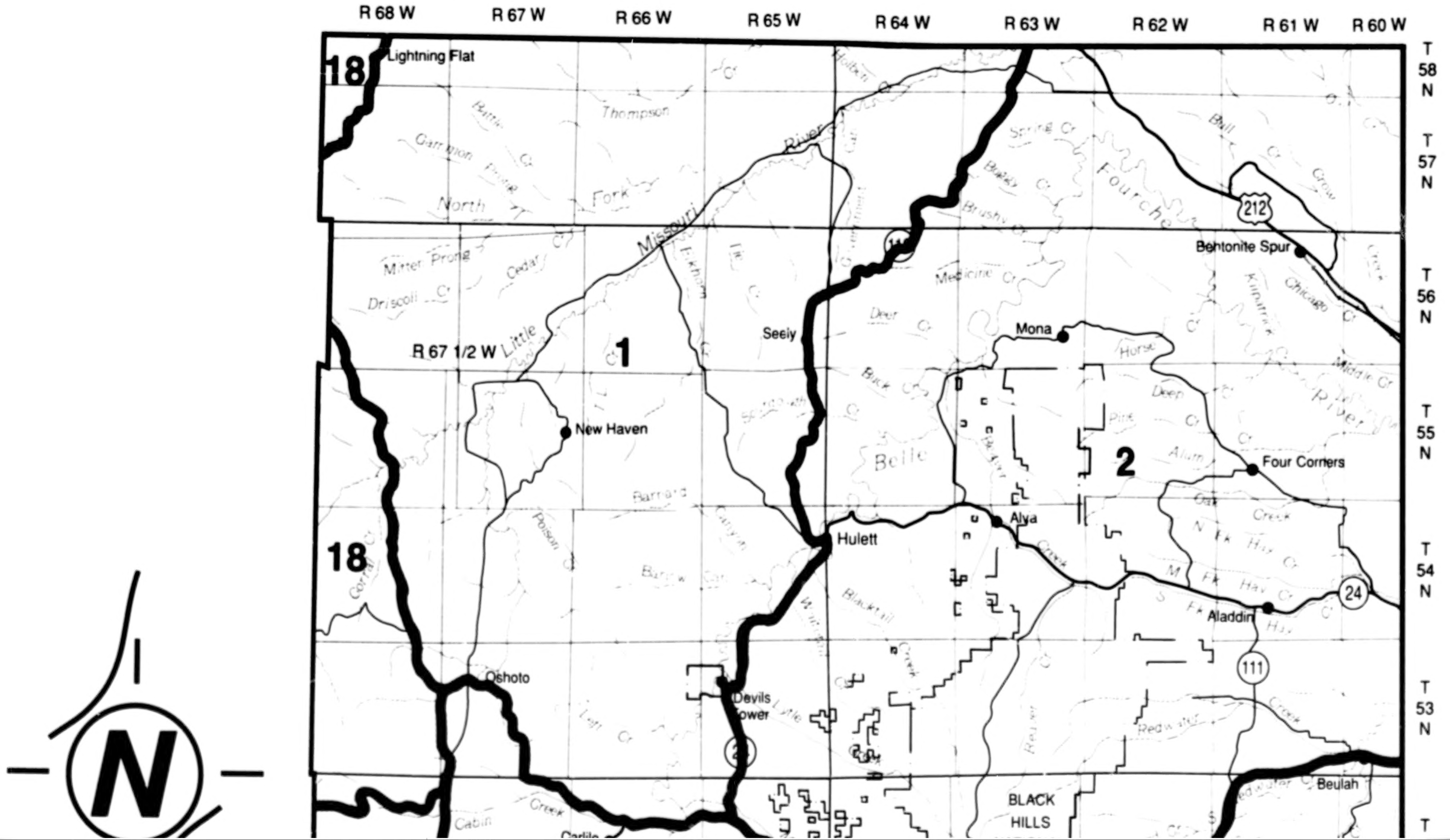

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R 66 W
R 65 W
R 64 W
R 63 W
R 62 W
R 61 W
R 60 W
R 67 1/2 W
T 58 N
T 57 N
T 56 N
T 55 N
T 54 N
T 53 N
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18
1
2
18
Lightning Flat
Thompson
Garrison Prong
North Fork
Missouri River
Little Missouri
Mitter Prong
Cedar Cr
Driscoll Cr
Elkhorn
Seely
New Haven
Barrard
Poison Cr
Barlow Cr
Oshoto
Devils Tower
Cabin Creek
Carlile
Hulett
Alva
Belle
Fourche
Spring Cr
Brushy Cr
Medicine Cr
Deer Cr
Buck Cr
Mona
Horse
Deep
Pine
Alum
Bentonite Spur
Chicago Cr
Kilpatrick
Bull Cr
Crow Cr
Middle Cr
River
Four Corners
Oak Creek
N Fk Hay Cr
M Fk Hay Cr
S Fk Hay
Aladdin
Redwater Creek
BLACK HILLS
Beulah
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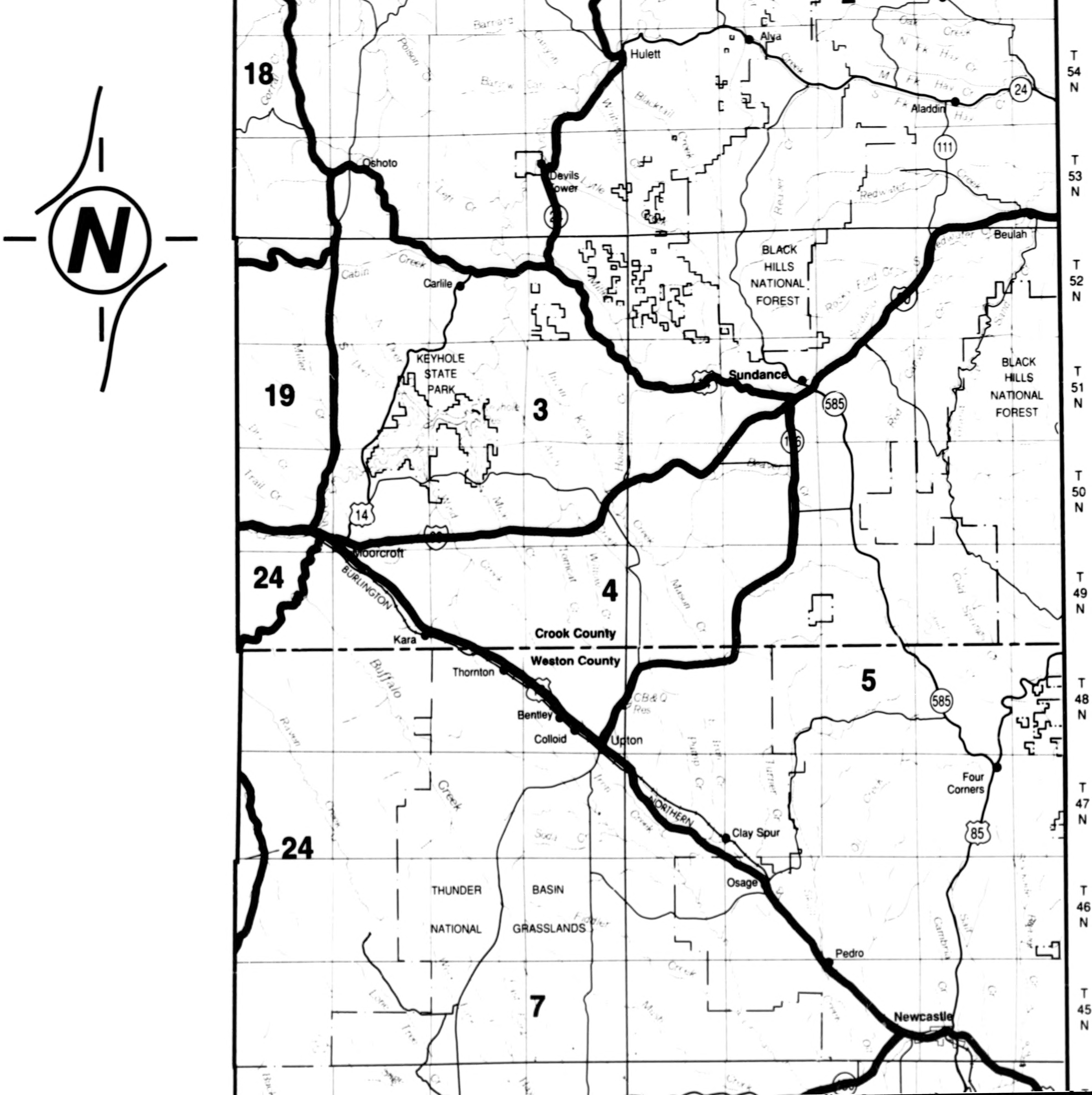
111
24
111
24
N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Oshoto
Devils Tower
24
Carlile
Beulah
BLACK HILLS NATIONAL FOREST
BLACK HILLS NATIONAL FOREST
KEYHOLE STATE PARK
Sundance
585
116
14
90
Moorcroft
BURLINGTON
NORTHERN
Kara
Crook County
Weston County
Thornton
Bentley
Colloid
Upton
CB&Q Res
585
Four Corners
85
Clay Spur
Osage
THUNDER BASIN NATIONAL GRASSLANDS
Pedro
Newcastle
Redwater
Buffalo Creek
Cabin Creek
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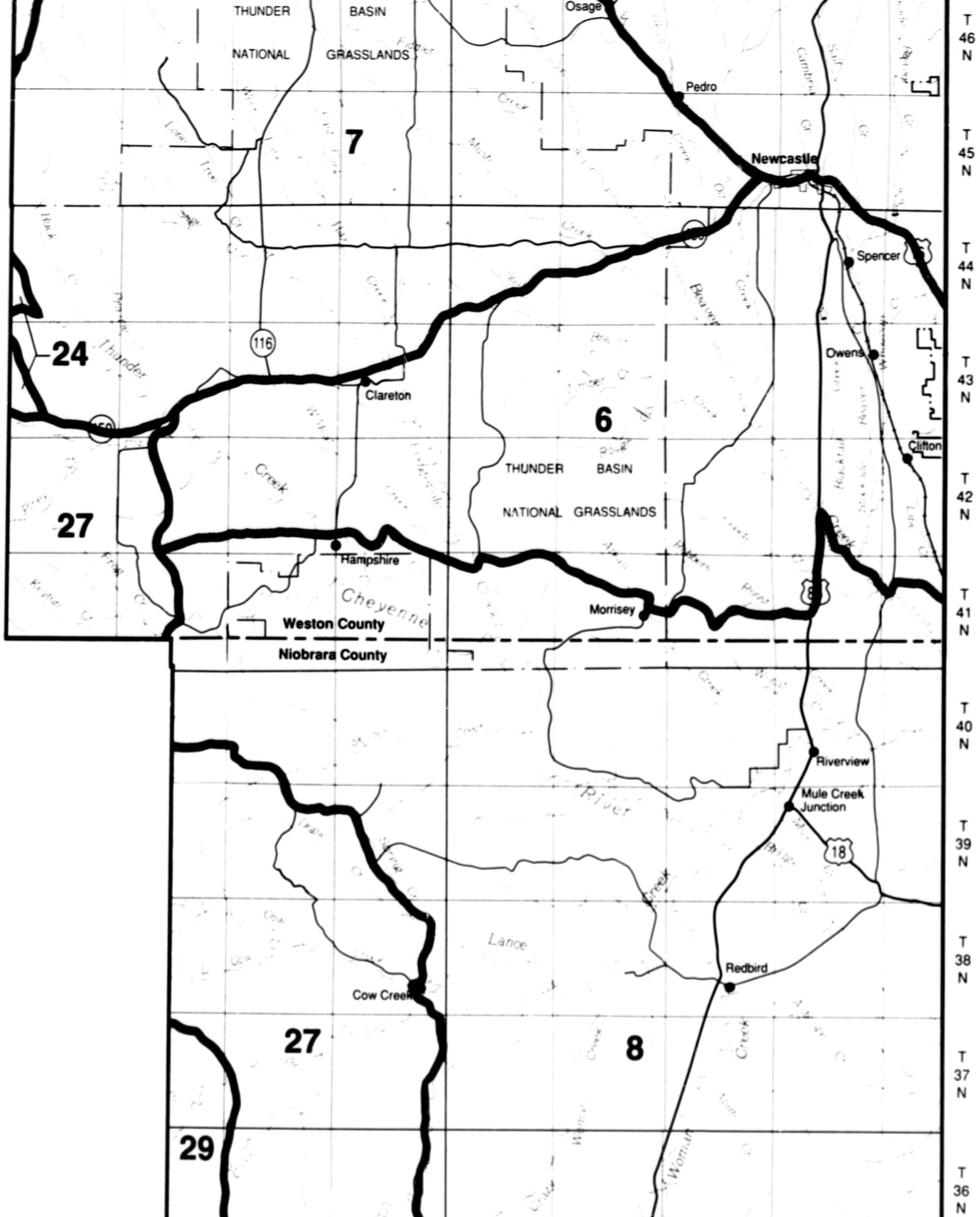
T 49 N
T 48 N
T 47 N
T 46 N
T 45 N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Newcastle
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Thunder
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16
Clareton
Spencer
Owens
Clifton
6
THUNDER
BASIN
NATIONAL
GRASSLANDS
27
Creek
Hampshire
Cheyenne
Morrisey
Weston County
Niobrara County
Riverview
Mule Creek
Junction
River
18
Creek
Lance
Redbird
Cow Creek
27
8
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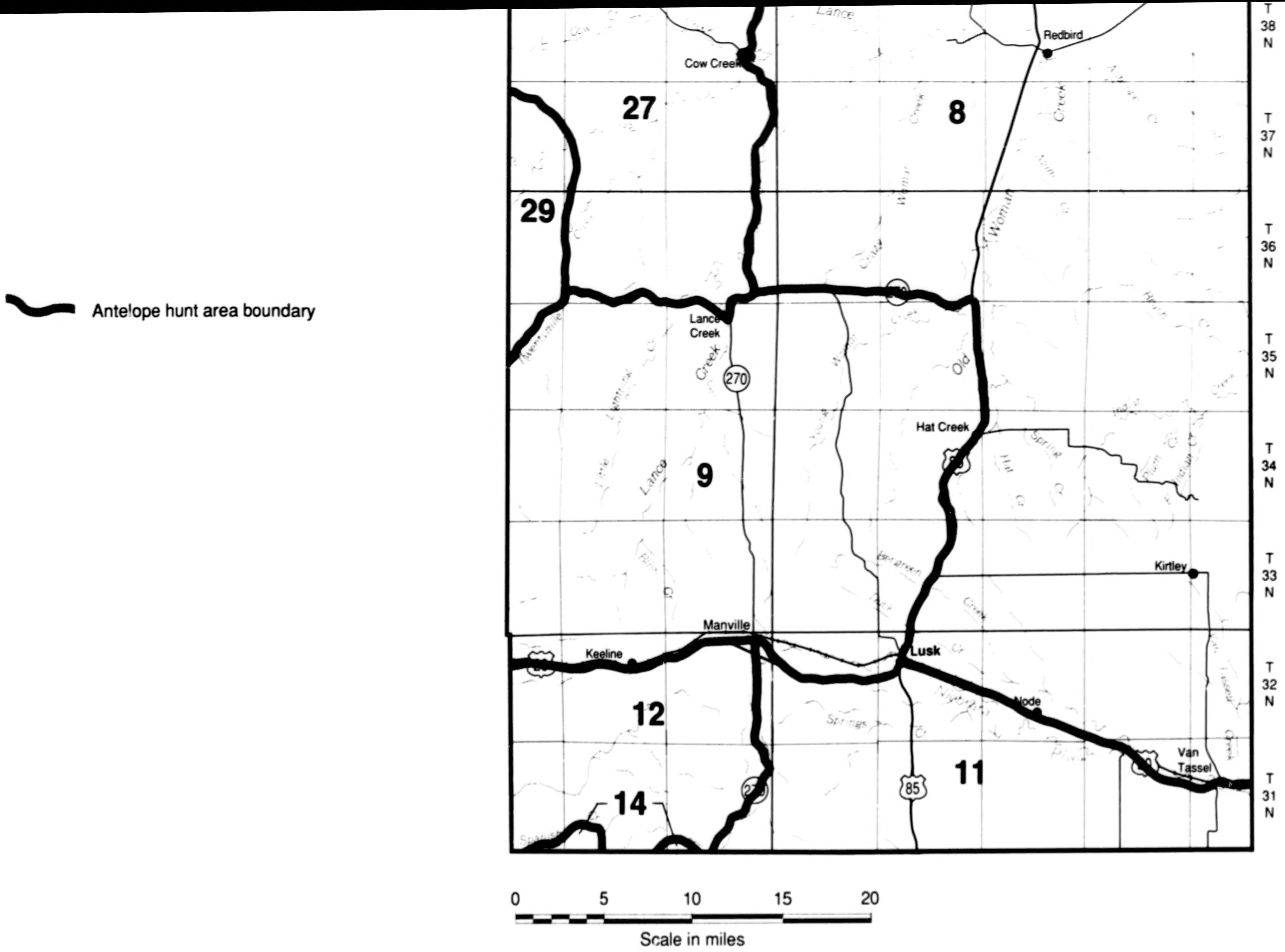
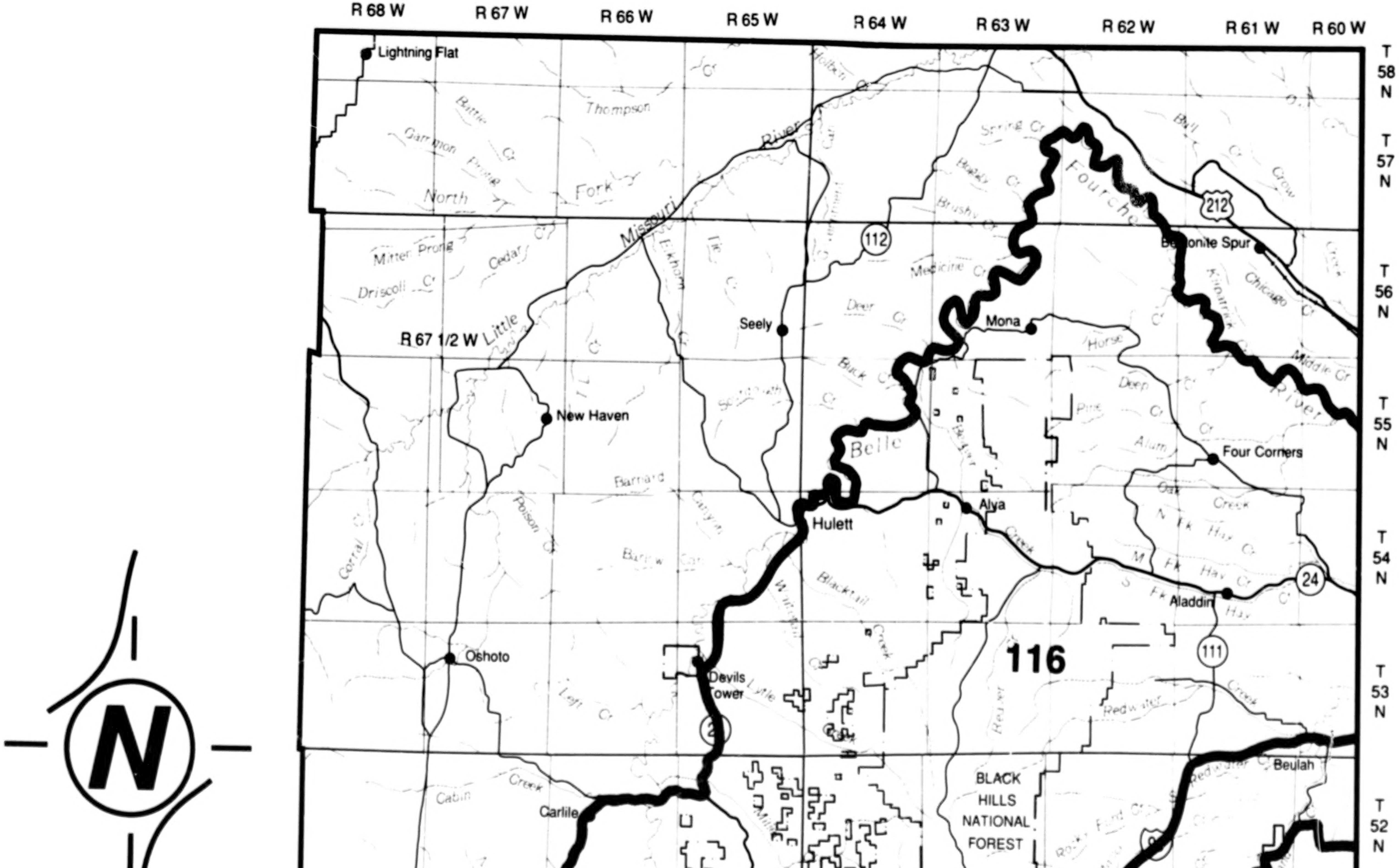


Map 3-17

Antelope Hunt Areas

Newcastle Field Office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R 65 W
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R 63 W
R 62 W
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R 60 W
T 58 N
T 57 N
T 56 N
T 55 N
T 54 N
T 53 N
T 52 N
R 67 1/2 W
Lightning Flat
Thompson
Battle
Garrison
Prong
Cr
North
Fork
Missouri
River
Little
Holben Cr
Spring Cr
Bull
Cr
Crow
212
Fourche
112
Bentonite Spur
Chicago
Cr
Medicine Cr
Brushy Cr
Mitter Prong
Cedar Cr
Driscoll Cr
Elkhorn
Seely
Deer Cr
Mona
Horse
Buck Cr
Deep
Pine
Cr
Alum
Middle Cr
River
New Haven
Belle
Four Corners
Barnard
Hulett
Alva
Oak
Creek
N Fk Hay Cr
M Fk Hay Cr
S Fk
Aladdin
Hay
24
Corral Cr
Poison Cr
Barlow Can
Blacktail
Creek
116
111
Oshoto
Devils Tower
Little
Left Cr
24
Redwater
Creek
Cabin
Creek
Carlile
BLACK HILLS NATIONAL FOREST
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Beulah
Rocky Ford Cr
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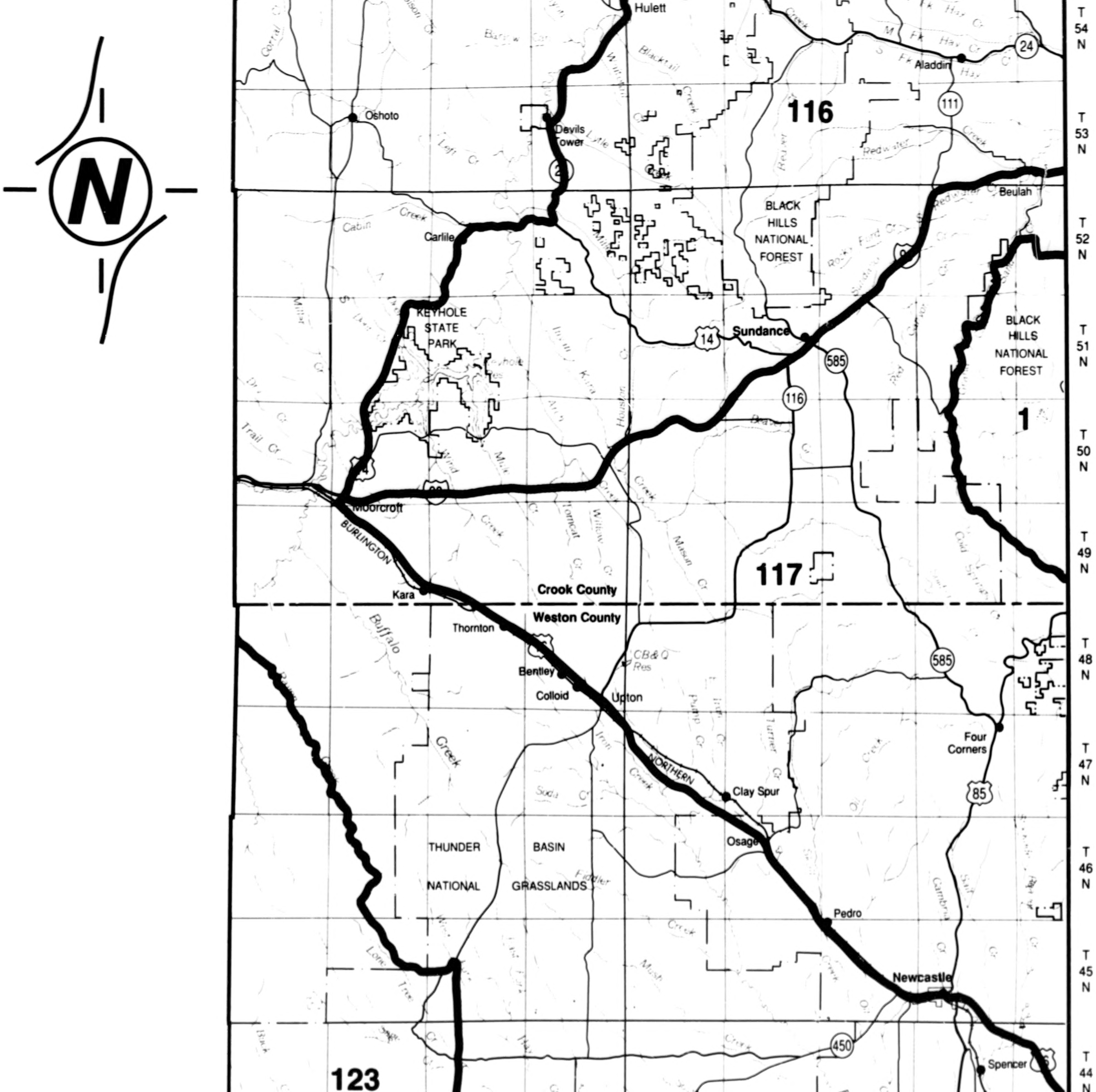
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Hulett
Aladdin
24
111
116
Oshoto
Devils Tower
24
Beulah
BLACK HILLS NATIONAL FOREST
Carlile
Cabin Creek
KEYHOLE STATE PARK
Keyhole Res
Sundance
14
90
585
116
1
BLACK HILLS NATIONAL FOREST
Moorcroft
90
BURLINGTON
Kara
117
Crook County
Weston County
Thornton
Bentley
Colloid
Upton
CB&Q Res
Buffalo
585
Four Corners
NORTHERN
Clay Spur
85
Osage
THUNDER BASIN NATIONAL GRASSLANDS
Pedro
Newcastle
450
Spencer
16
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T 51 N
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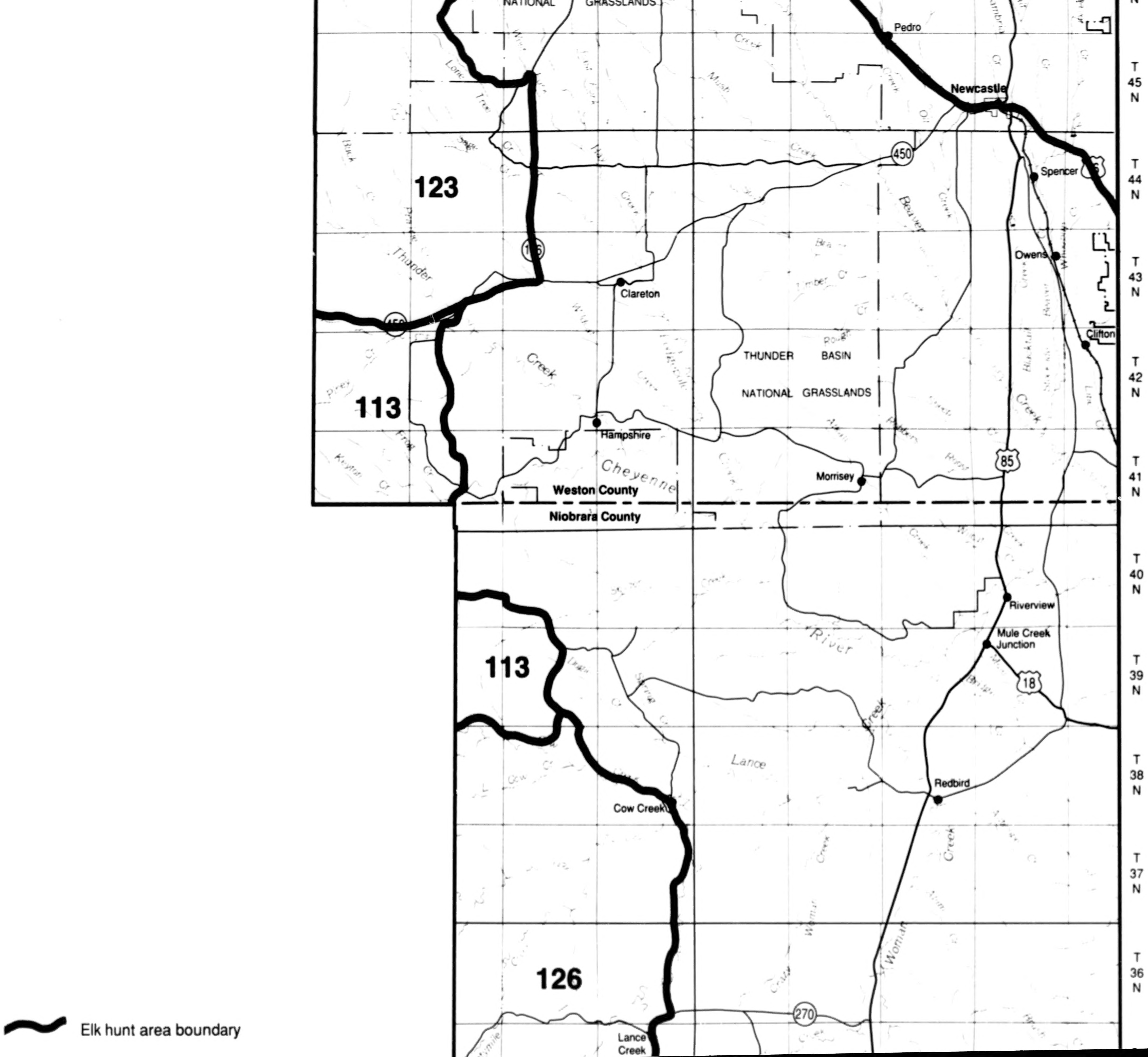
T 48 N
T 47 N
T 46 N
T 45 N
T 44 N


NATIONAL
GRASSLANDS
Pedro
Newcastle
Spencer
Owens
Clifton
Clareton
Hampshire
Morrisey
Weston County
Niobrara County
THUNDER BASIN
NATIONAL GRASSLANDS
Cheyenne
River
Lance
Creek
Thunder
Riverview
Mule Creek Junction
Redbird
Cow Creek
Lance Creek
123
113
113
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116
16
85
18
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T 38 N
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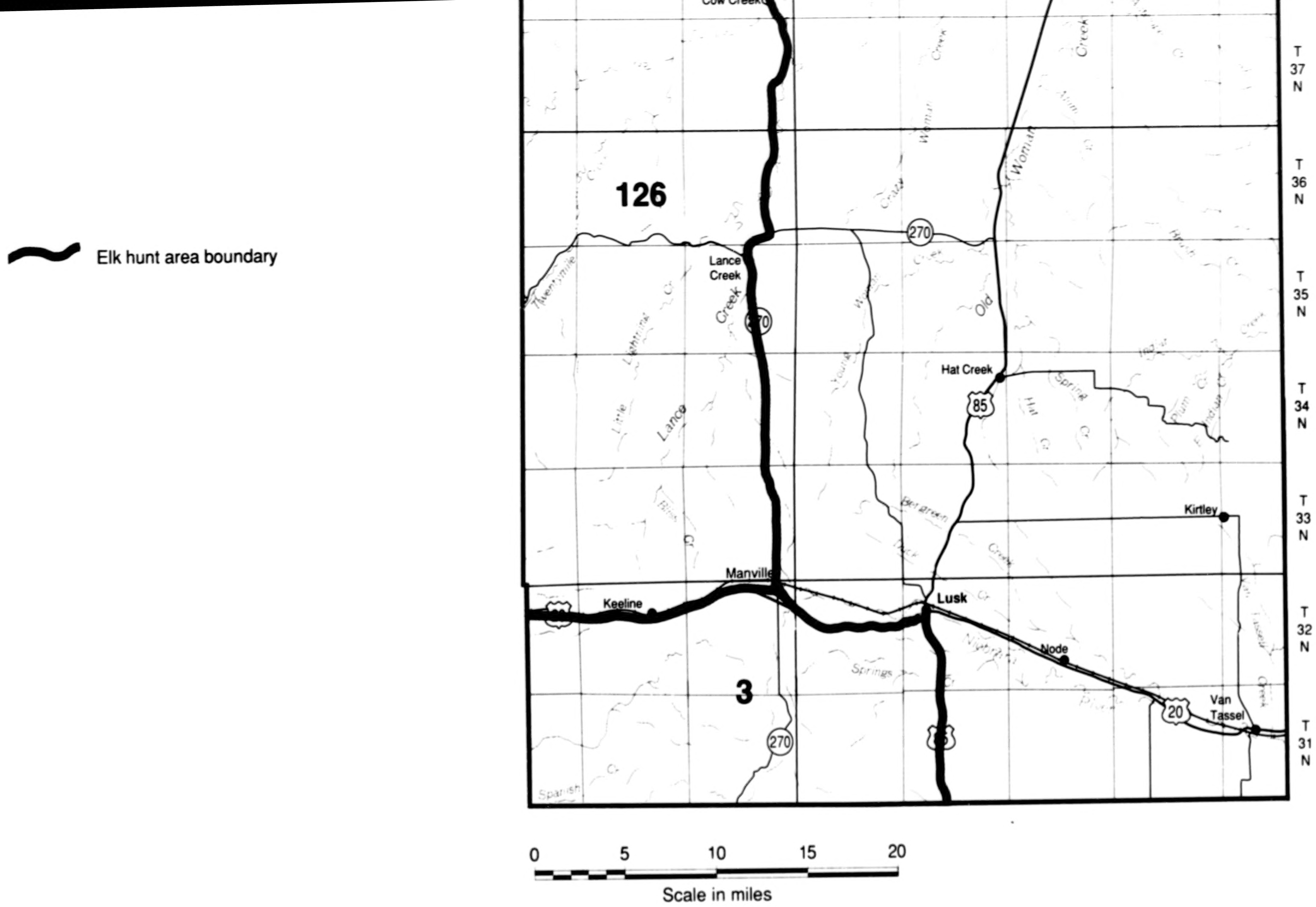
Elk hunt area boundary



Map 3-18

Elk Hunt Areas

Newcastle Field Office

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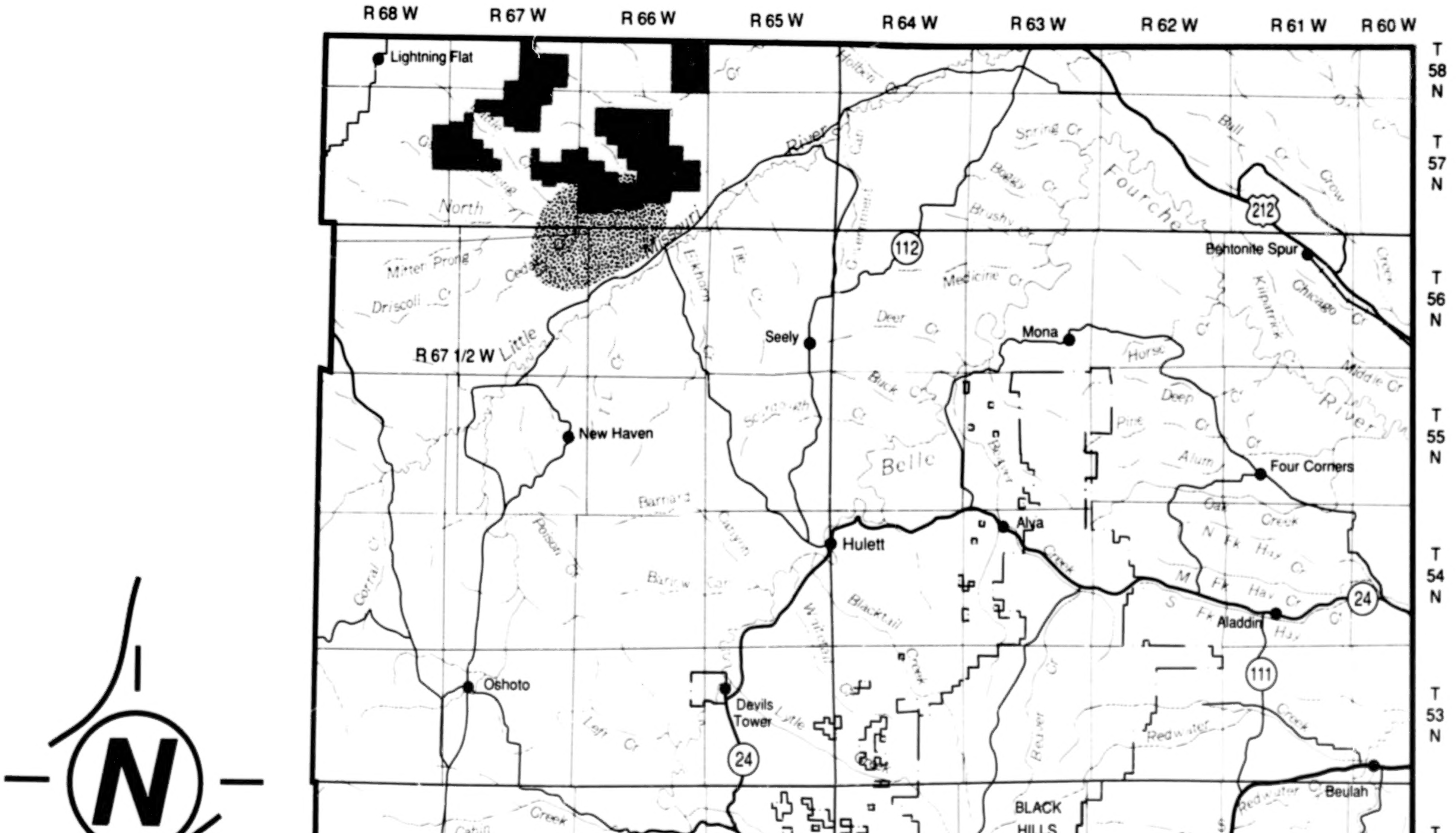
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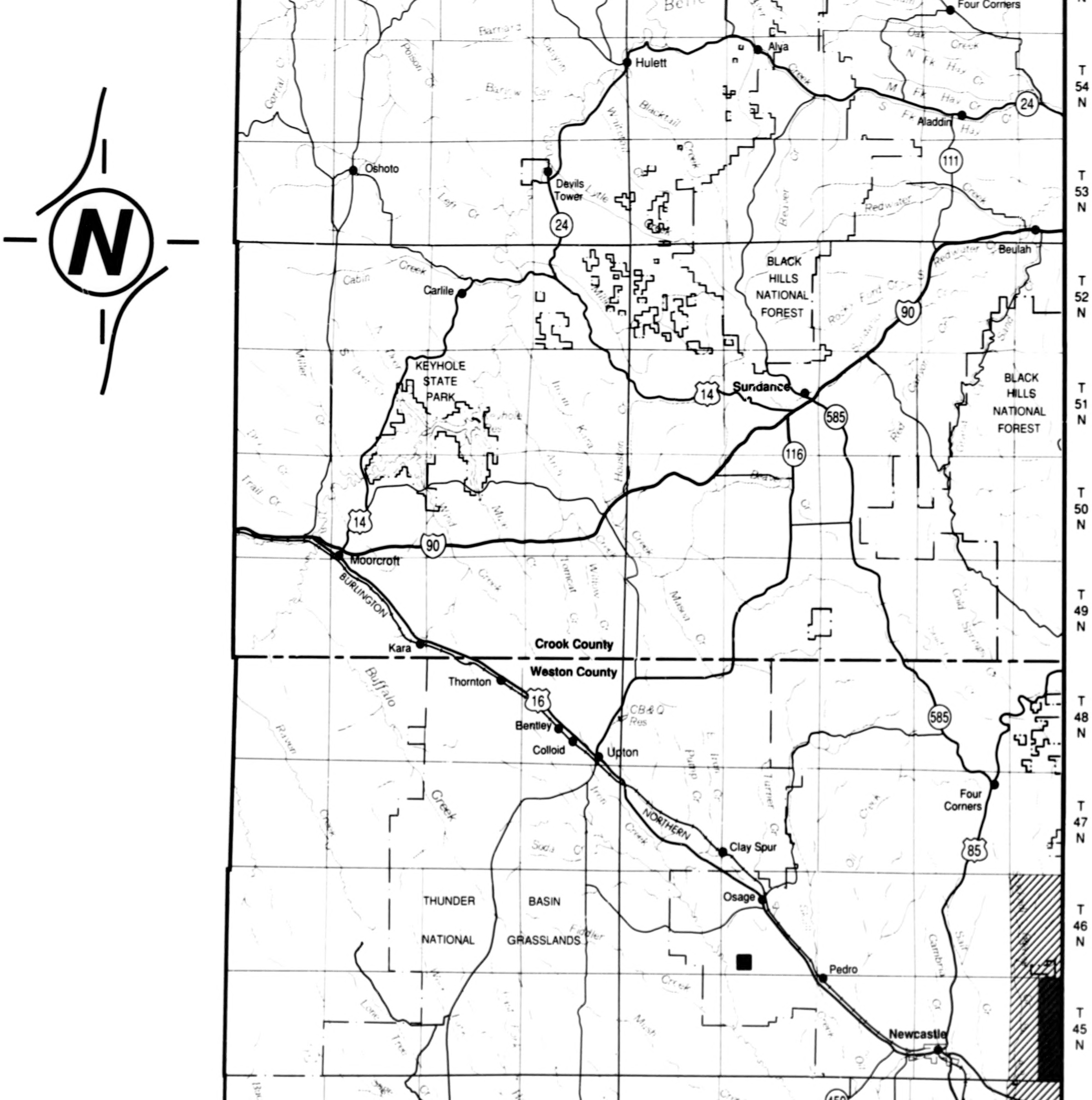
R 63 W
R 62 W
R 61 W
R 60 W
T 58 N
T 57 N
T 56 N
T 55 N
T 54 N
T 53 N
T
R 67 1/2 W
Lightning Flat
North
Mitter Prong
Driscoll Cr
Cedar
Little
Missouri
River
Holben Cr
Cat
Elkhorn
Spring Cr
Bull
Crow
Fourche
Brushy Cr
Medicine Cr
Deer Cr
Seely
Mona
Horse
Bentonite Spur
Chicago Cr
Kilpatrick
Middle Cr
River
Deep
Pine
Alum
Four Corners
Belle
Buck Cr
New Haven
Barnard
Poison Cr
Canyon
Barlow Can
Corral Cr
Hulett
Alva
Blacktail
Creek
Oak Creek
N Fk Hay Cr
M Fk Hay Cr
S Fk Hay Cr
Aladdin
Oshoto
Devils Tower
Little
Left Cr
Beaver
Redwater
Redwater Cr
Beulah
BLACK HILLS
Cabin
Creek
212
112
24
111
N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Four Corners
Alva
Hulett
Aladdin
24
111
Oshoto
Devils Tower
Beulah
Carlile
BLACK HILLS NATIONAL FOREST
90
KEYHOLE STATE PARK
14
Sundance
585
116
BLACK HILLS NATIONAL FOREST
Moorcroft
BURLINGTON
Kara
Crook County
Weston County
Thornton
16
CB&Q Res
Bentley
Colloid
Upton
NORTHERN
Four Corners
Clay Spur
85
Osage
THUNDER NATIONAL
BASIN GRASSLANDS
Pedro
Newcastle
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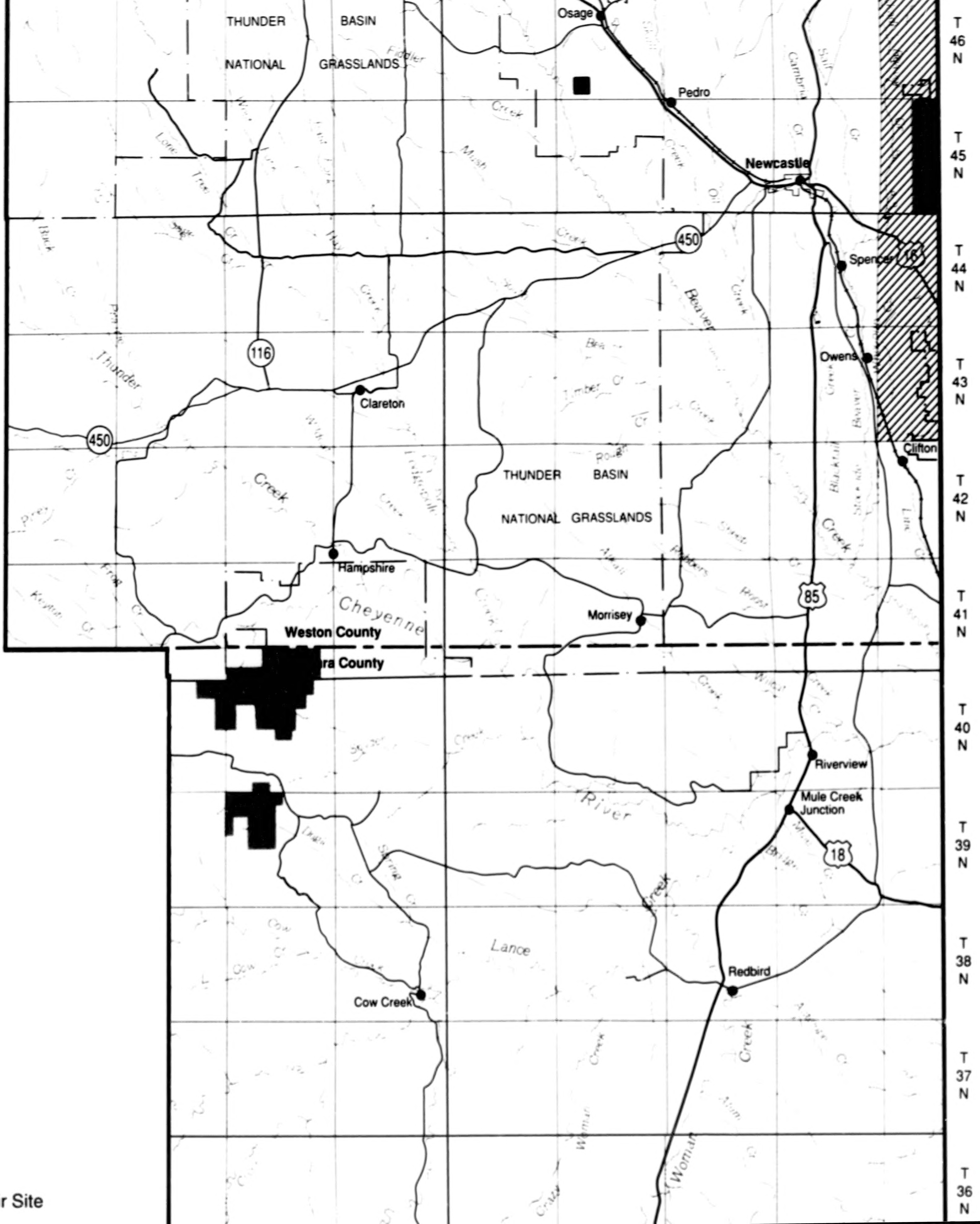
T 45 N



▨ Potential area of primitive campsite development

■ Proposed Meadow Draw Reservoir Site

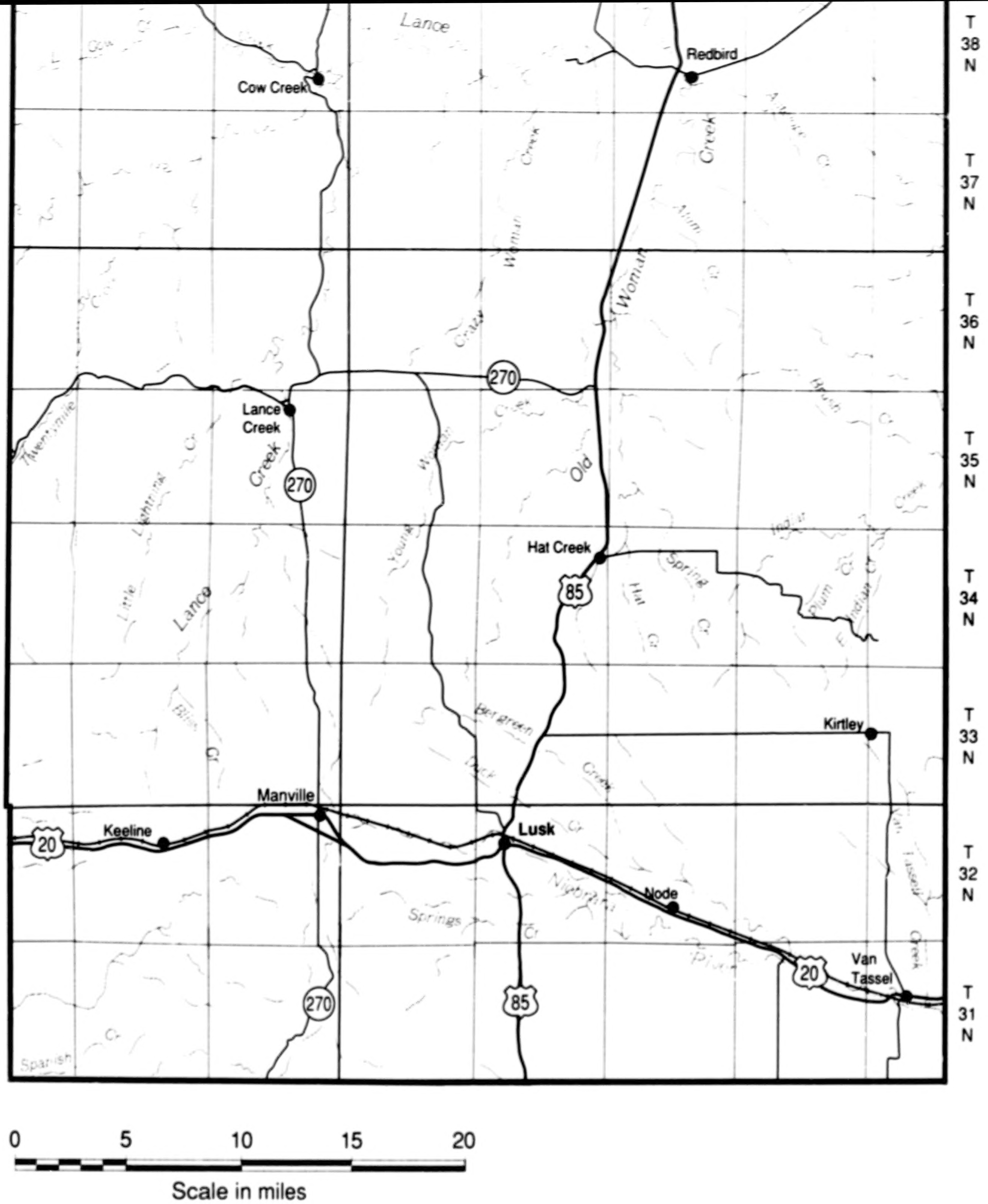
░ Potential area of primitive campsite development

■ Proposed Meadow Draw Reservoir Site

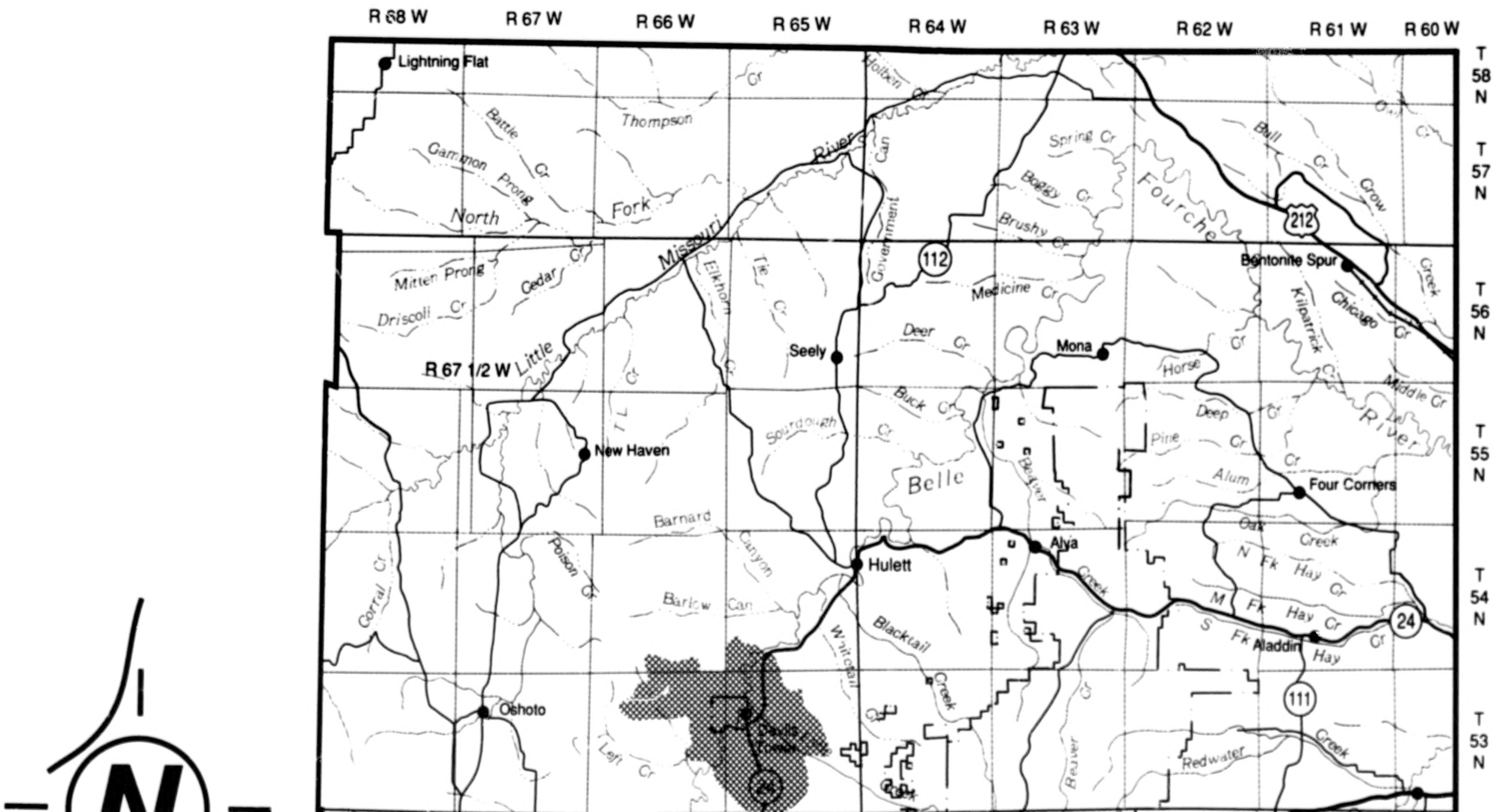
▬ Additional Access Needs

▨ Stateline Special Recreation Management Area

The above areas pertain only to surface acres administered by the Bureau of Land Management.



Map 3-19
Recreation Development Areas
Newcastle Field Office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R 66 W
R 65 W
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T 55 N
T 54 N
T 53 N
R 67 1/2 W
Lightning Flat
Battle Cr
Gammon Prong
Thompson
North Fork
Little Missouri River
Holben Cr
Cr
Government Can
Spring Cr
Boggy Cr
Brushy Cr
Fourche
Bull Cr
Crow
212
112
Bentonite Spur
Creek
Mitten Prong
Cedar Cr
Driscoll Cr
Elkhorn Cr
Tie Cr
Medicine Cr
Kilpatrick Cr
Chicago Cr
Seely
Deer Cr
Mona
Horse
Cr
Middle Cr
Buck Cr
Sourdough Cr
Deep Cr
River
New Haven
Belle
Beaver
Pine Cr
Alum
Cr
Four Corners
Barnard
Canyon
Poison Cr
Hulett
Alva
Oak Creek
N Fk Hay Cr
Creek
Corral Cr
Barlow Can
M Fk Hay Cr
S Fk Hay Cr
Aladdin
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Whitetail
Blacktail Creek
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Oshoto
Devils Tower
Left Cr
Beaver Cr
Redwater Creek
24
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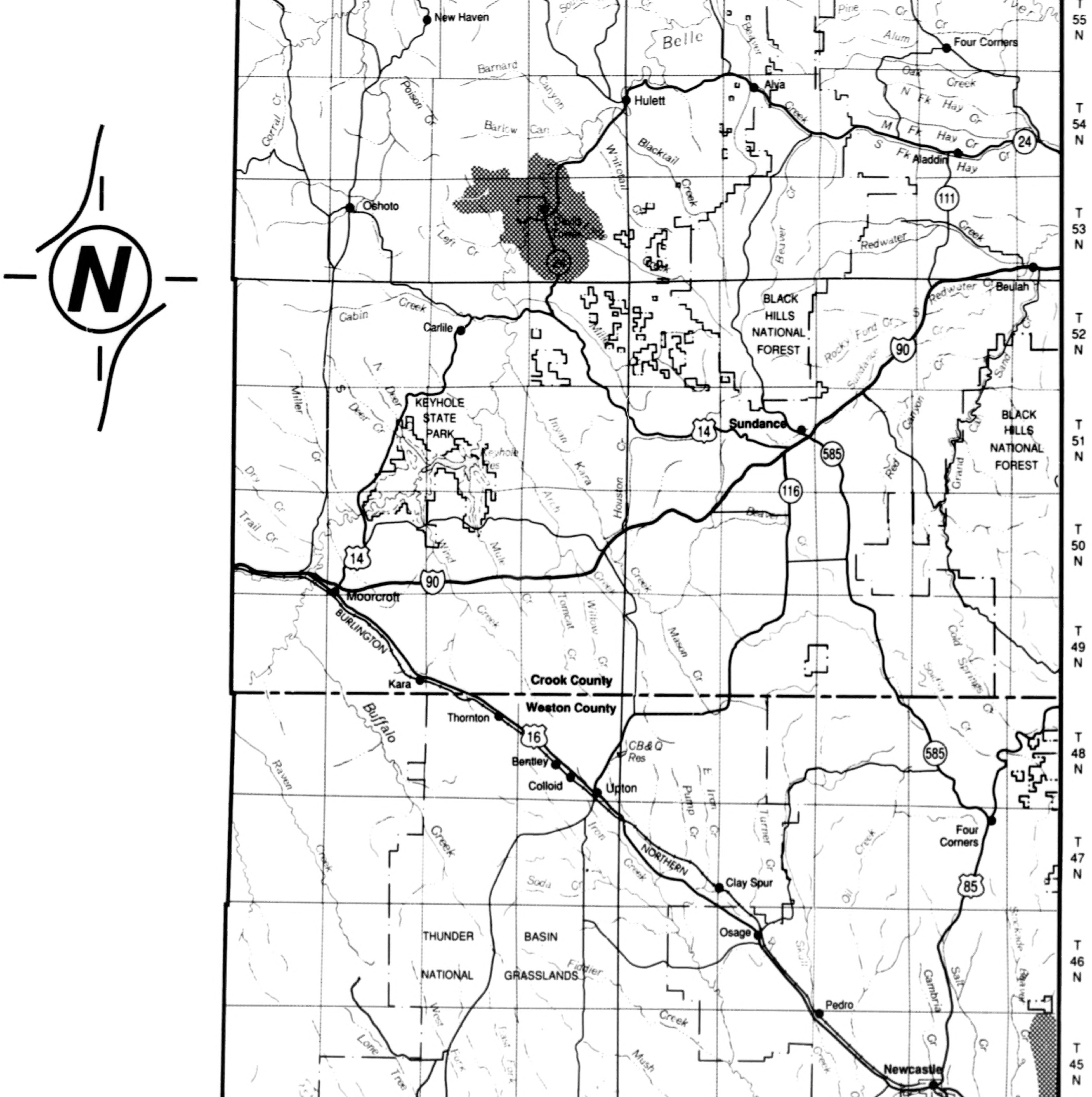
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Four Corners
Alva
Hulett
Barnard
Poison Cr
Canyon
Corral Cr
Barlow Can
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Blacktail Creek
Oak Creek
N Fk Hay Cr
M Fk Hay Cr
S Fk Hay Cr
Aladdin
24
111
Oshoto
Left Cr
Beaver Cr
Redwater Creek
Beulah
24
Cabin Creek
Carlile
BLACK HILLS NATIONAL FOREST
Redwater Cr
Rocky Ford Cr
Sundance Cr
90
Miller Cr
S Deer Cr
N Deer Cr
KEYHOLE STATE PARK
Keyhole Res
Inyan Kara Cr
Houston Cr
14
Sundance
585
116
Red Canyon
Grand Cr
BLACK HILLS NATIONAL FOREST
Dry Cr
Trail Cr
Arch
Wind
Mule Cr
14
90
Moorcroft
BURLINGTON
Creek
Tomcat Cr
Willow Cr
Mason Cr
Cold Springs
Kara
Crook County
Weston County
Thornton
Buffalo
16
CB&Q Res
Bentley
Colloid
Upton
Raven
Creek
E Iron Cr
Pump Cr
Turner Cr
585
Four Corners
Creek
Iron Creek
NORTHERN
Clay Spur
Soda Cr
Oil Creek
85
Osage
THUNDER NATIONAL
BASIN GRASSLANDS
Fiddler
West
Lone Tree
Creek
Pedro
Salt
Gambria Cr
Mush
Creek
Newcastle
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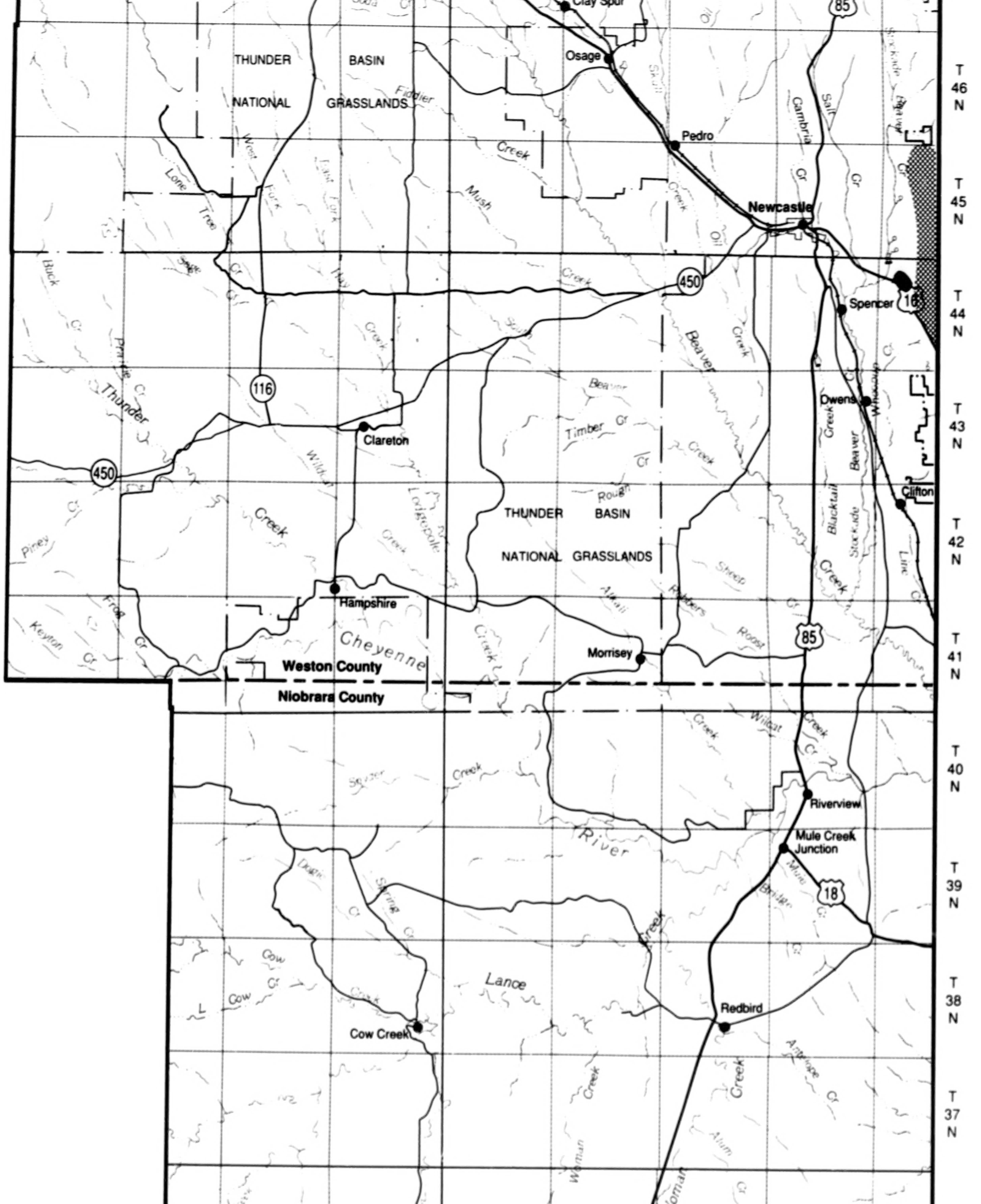
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Newcastle
Spencer
Owens
Clifton
Clareton
Hampshire
Morrisey
Riverview
Mule Creek Junction
Redbird
Cow Creek
THUNDER BASIN NATIONAL GRASSLANDS
THUNDER BASIN NATIONAL GRASSLANDS
Weston County
Niobrara County
Cheyenne
River
Lance
Creek
85
16
18
116
450
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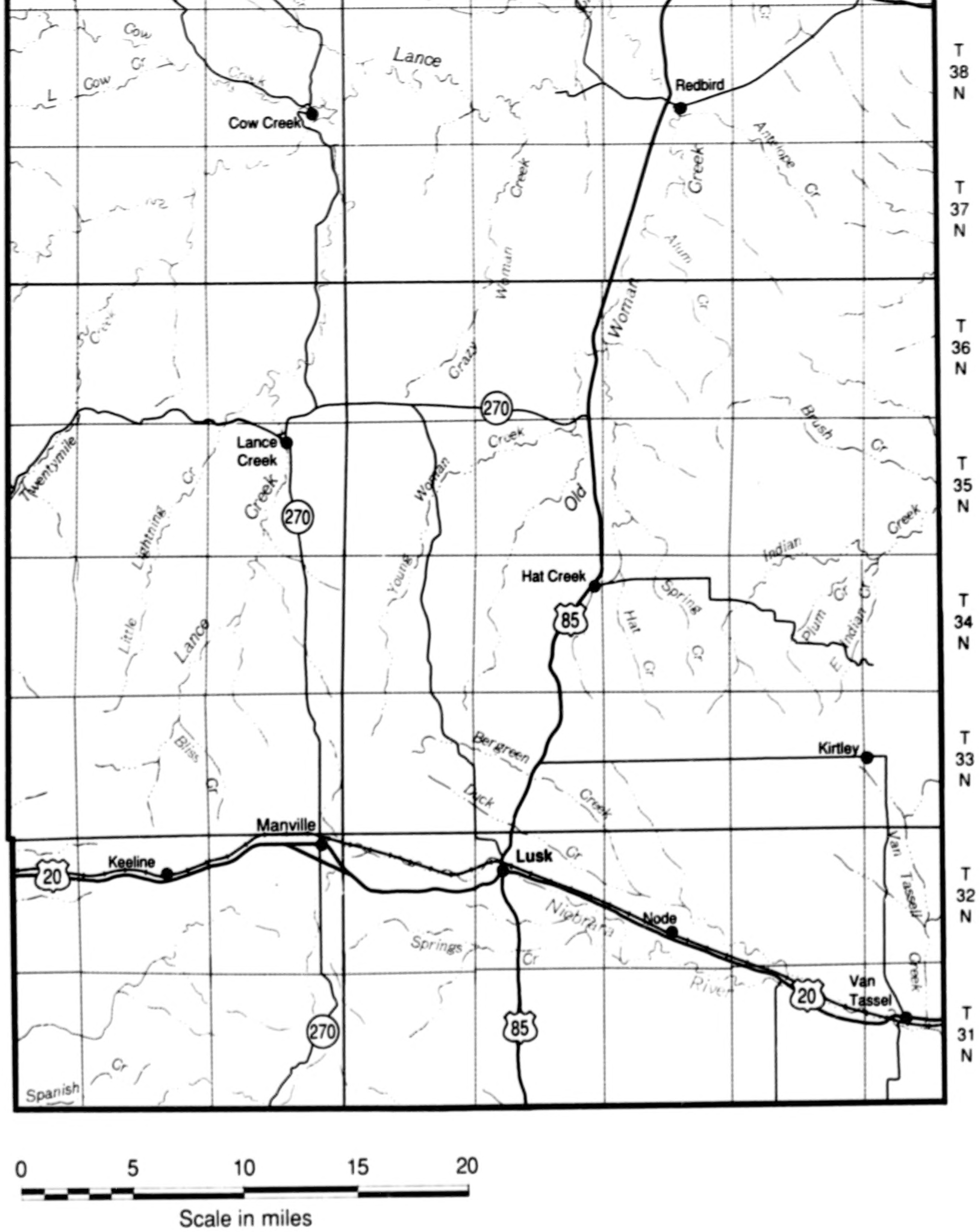
85
Fiddler Creek
Mush Creek
Oil Creek
Skull Creek
Cambria Cr
Salt Cr
Stockade Beaver Cr
West Fork
East Fork
Lone Tree
Sage Cr
Buck Cr
Prairie Cr
Thunder
Wildcat Creek
Lodgepole Creek
Beaver Creek
Timber Cr
Rough Cr
Sheep Creek
Robbers Roost
Alkali Creek
Blacktail Creek
Beaver
Stockade
Whoopup Cr
Line Cr
Piney Cr
Frog Cr
Keyton Cr
Wildcat Creek
Sevier Creek
Dogie Cr
Spring Cr
Cow Creek
L Cow Cr
Mule Cr
Bridger Cr
Antelope Cr
Alum Cr
Woman Creek
Woman Creek
T 46 N
T 45 N
T 44 N
T 43 N
T 42 N
T 41 N
T 40 N
T 39 N
T 38 N
T 37 N

▨ Proposed Class II Area (approximate)

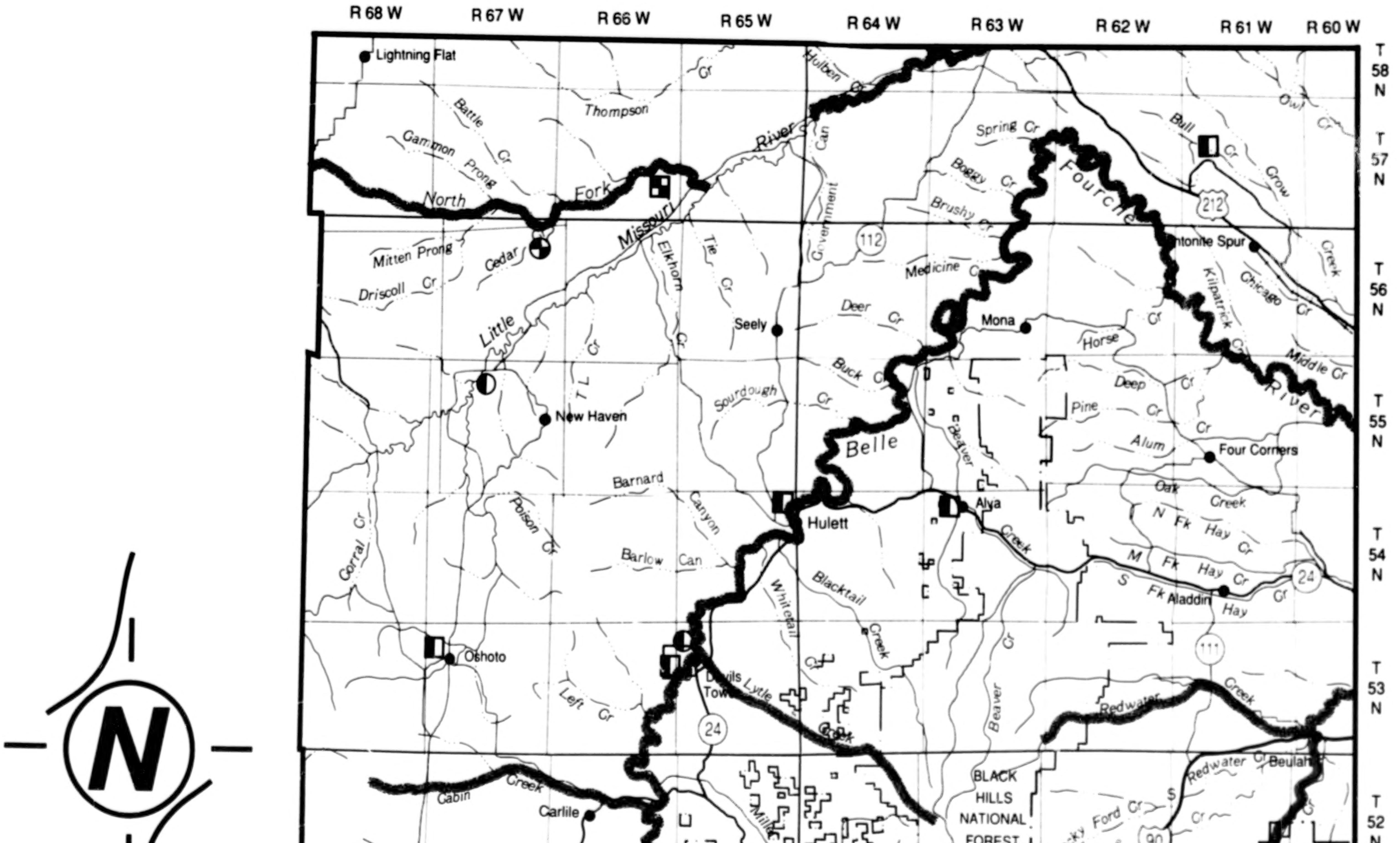
Proposed Class III Area (approximate)

● Proposed Class V Area (approximate)

The above areas pertain only to surface acres administered by the Bureau of Land Management.



Map 3-20
Visual Resource Management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T 57 N
T 56 N
T 55 N
T 54 N
T 53 N
T 52 N
Lightning Flat
Battle Cr
Gammon Prong
Thompson
Holben Cr
Cr
North Fork
Little Missouri River
Can
Government
Spring Cr
Boggy Cr
Brushy Cr
Bull Cr
Owl Cr
Crow
Fourche
212
Mitten Prong
Cedar
Driscoll Cr
Elkhorn Cr
Tie Cr
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Medicine Cr
Bentonite Spur
Kilpatrick Cr
Chicago Cr
Creek
Seely
Deer Cr
Mona
Horse Cr
Middle Cr
River
Cr
Buck Cr
Sourdough Cr
Deep Cr
Pine Cr
New Haven
Belle
Beaver
Alum Cr
Four Corners
Barnard Canyon
Oak Creek
Poison Cr
Hulett
Alva
N Fk Hay Cr
Corral Cr
Barlow Can
Blacktail
Creek
M Fk Hay Cr
S Fk Aladdin Hay Cr
24
Whitetail
Creek
111
Oshoto
Cr
Devils Tower
Lytle Creek
Beaver Cr
Redwater Creek
Left Cr
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Cabin Creek
Carlile
Miller
BLACK HILLS NATIONAL FOREST
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Beulah
Sand Cr
Cr
Fork Ford Cr
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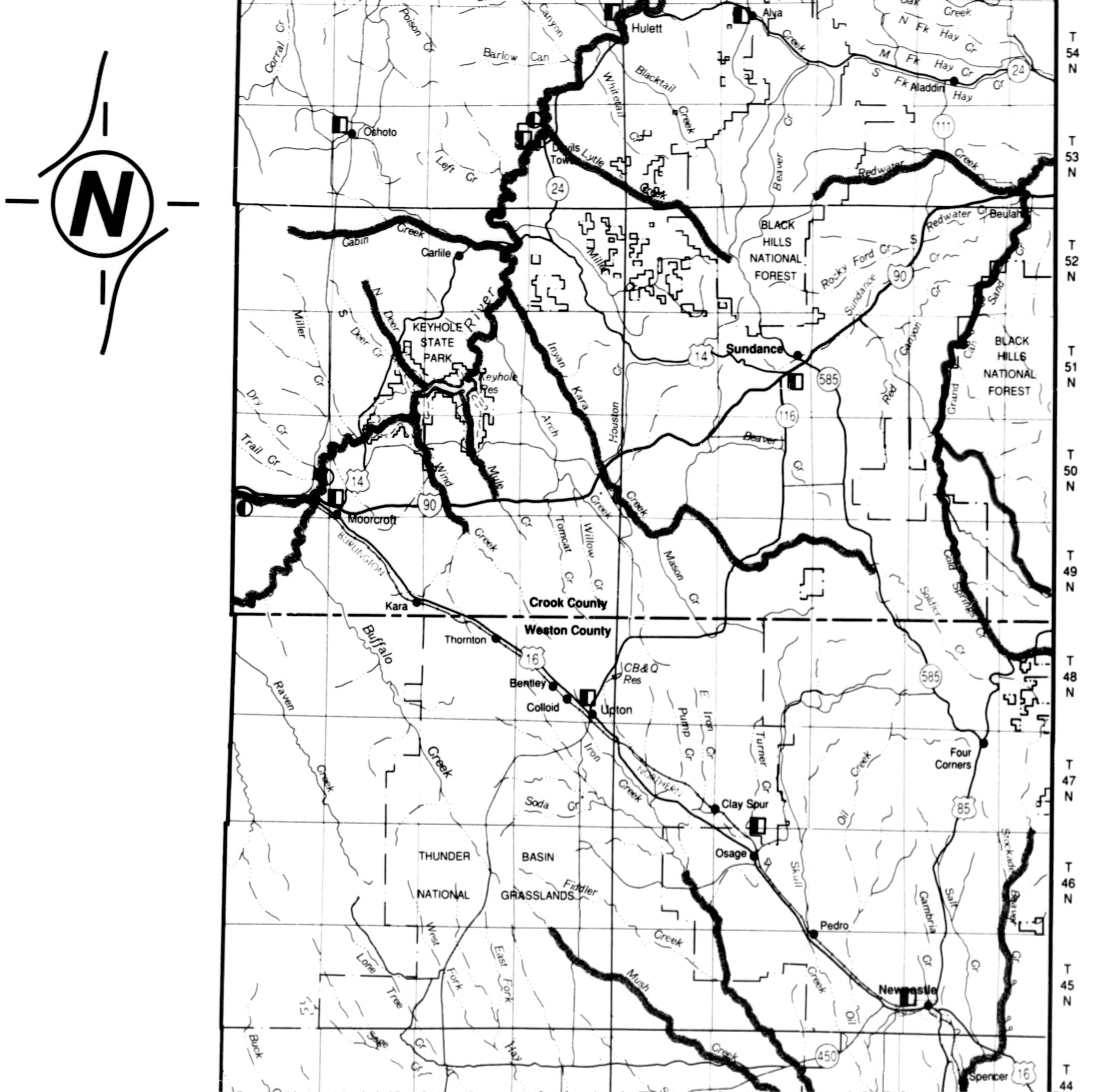
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Alva
Oak Creek
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M Fk Hay Cr
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Aladdin
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Creek
Corral Cr
Poison Cr
Canyon
Barlow Can
Whitetail Cr
Blacktail Creek
Oshoto
Left Cr
Devils Tower
Lytle Creek
24
Beaver Cr
111
Redwater Creek
Beulah
Redwater
Cabin Creek
Carlile
Miller Cr
BLACK HILLS NATIONAL FOREST
Rocky Ford Cr
S
Cr
90
Sundance Cr
Sand Cr
N Deer Cr
S Deer Cr
Miller Cr
River
KEYHOLE STATE PARK
Keyhole Res
Inyan Kara Creek
Houston Cr
Sundance
14
585
Red Canyon Cr
Grand Can
BLACK HILLS NATIONAL FOREST
Dry Cr
Trail Cr
Arch
116
Beaver Cr
14
Wind
Mule
90
Moorcroft
BURLINGTON
Creek
Cr
Tomcat Cr
Willow Cr
Creek
Mason Cr
Cold Springs
Soldier Cr
Kara
Crook County
Weston County
Thornton
Buffalo Creek
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CB&Q Res
Bentley
Colloid
Upton
Raven Creek
E Iron Cr
Pump Cr
Turner Cr
Iron Creek
585
Four Corners
NORTHERN
Soda Cr
Clay Spur
Oil Creek
85
Stockade Beaver Cr
THUNDER BASIN NATIONAL GRASSLANDS
Osage
Skull
Fiddler Creek
Cambria Cr
Salt Cr
Pedro
Lone Tree
West Fork
East Fork Hay
Mush Creek
Creek
Oil
Newcastle
Buck
Sage Cr
Cr
450
Spencer
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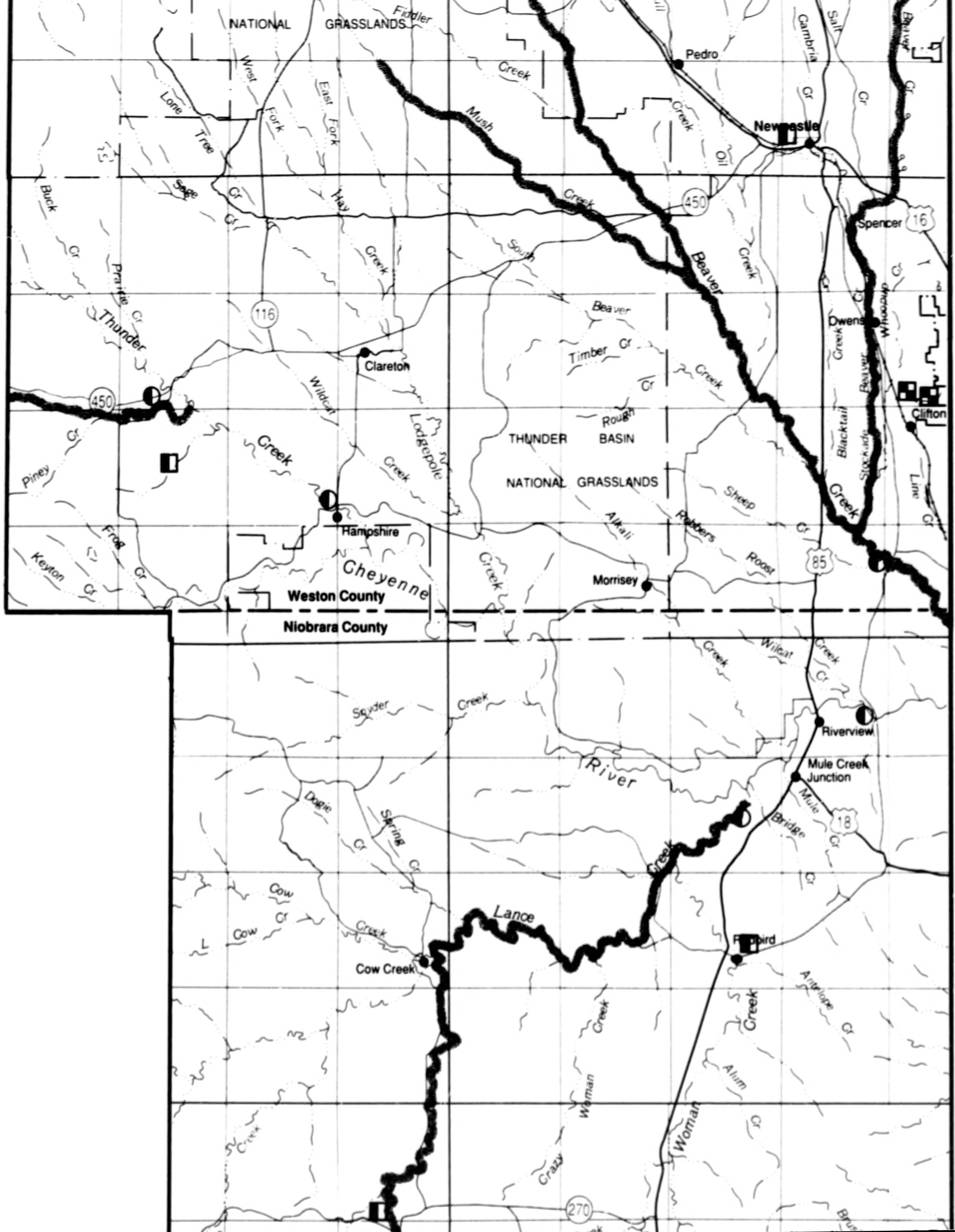
T 44

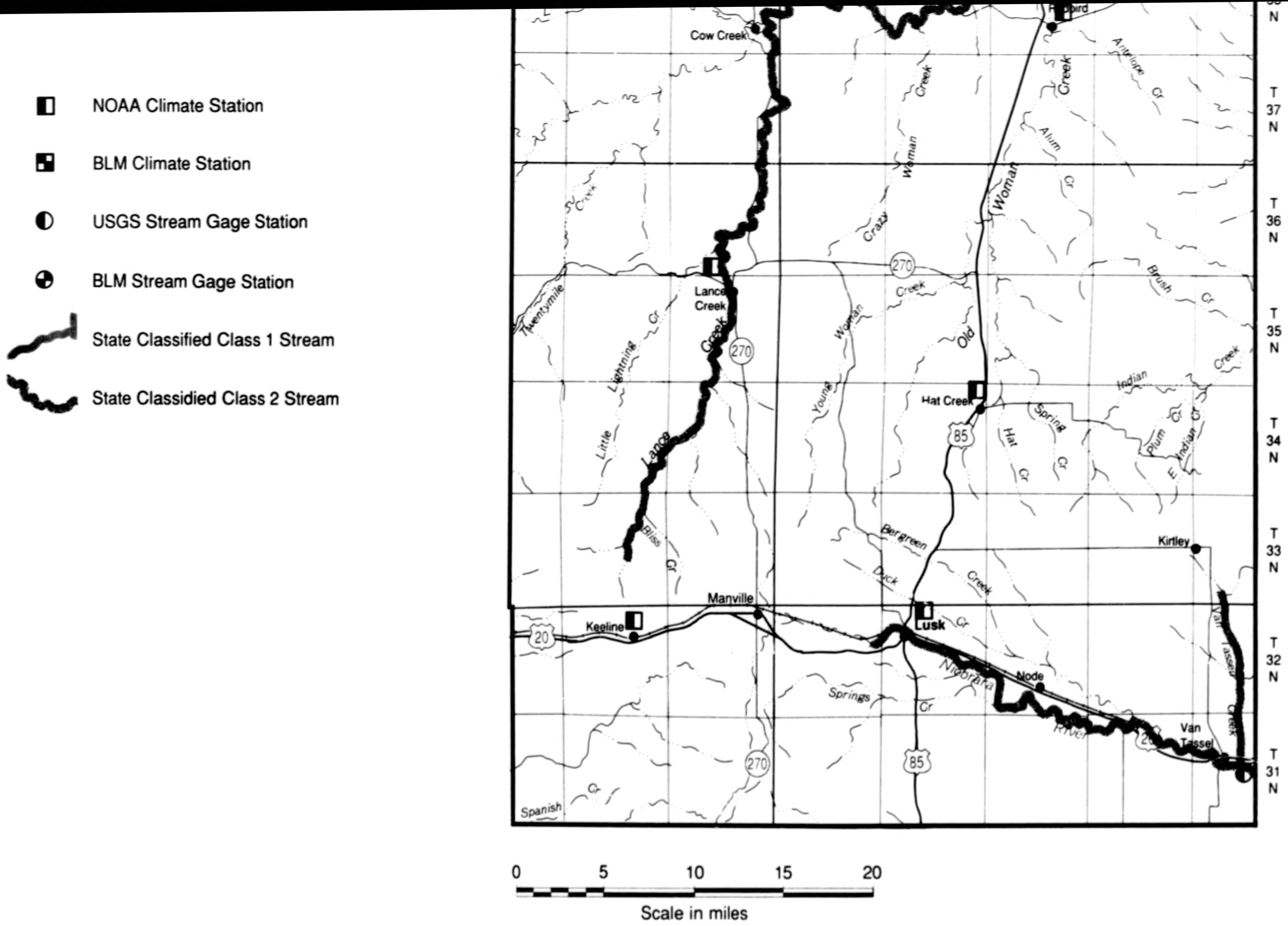


◧ NOAA Climate Station

▚ BLM Climate Station

◐ USGS Stream Gage Station

◕ BLM Stream Gage Station



Map 3-21

Surface Hydrology

Newcastle Field Office

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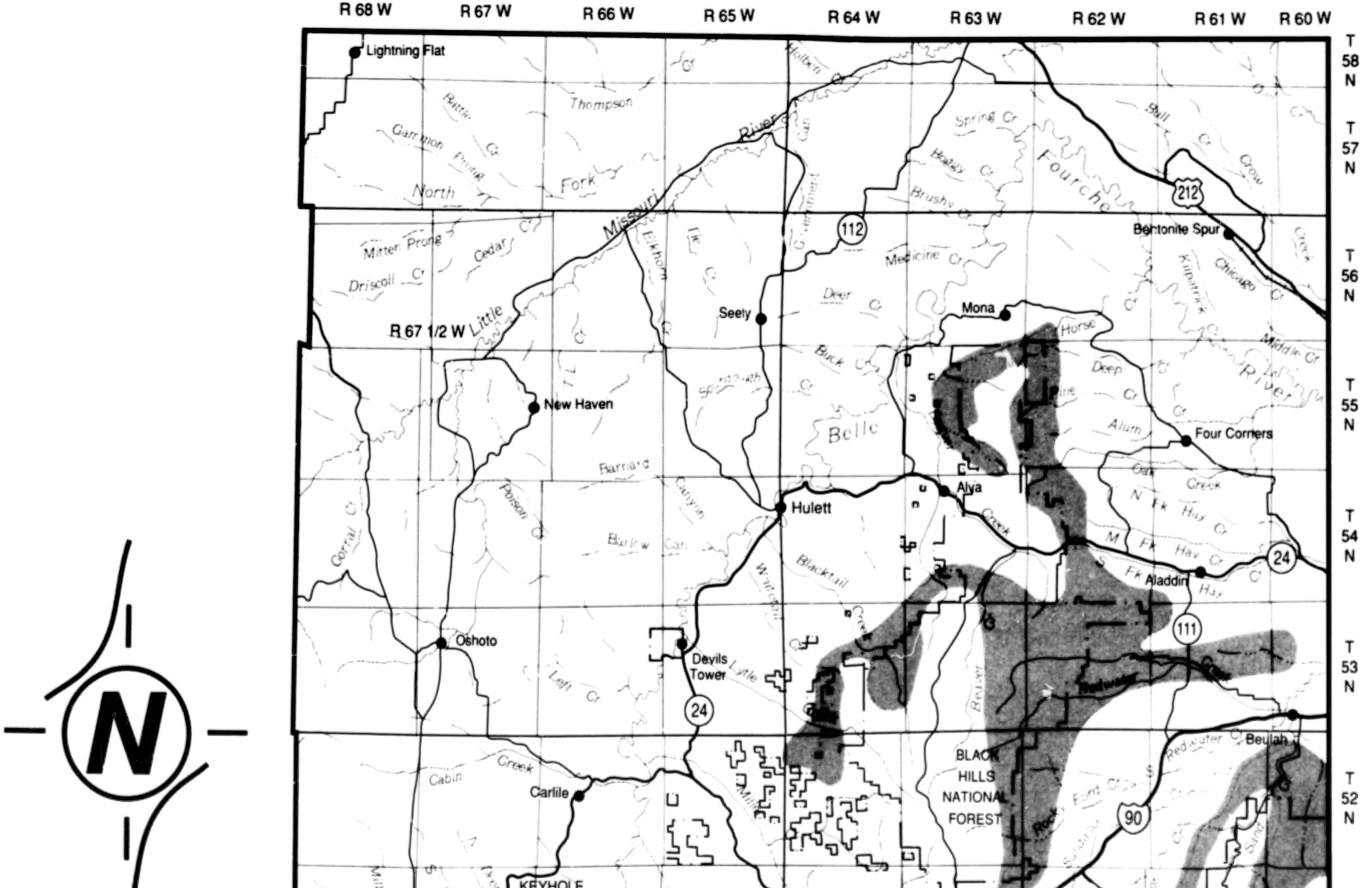
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R 67 W
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R 63 W
R 62 W
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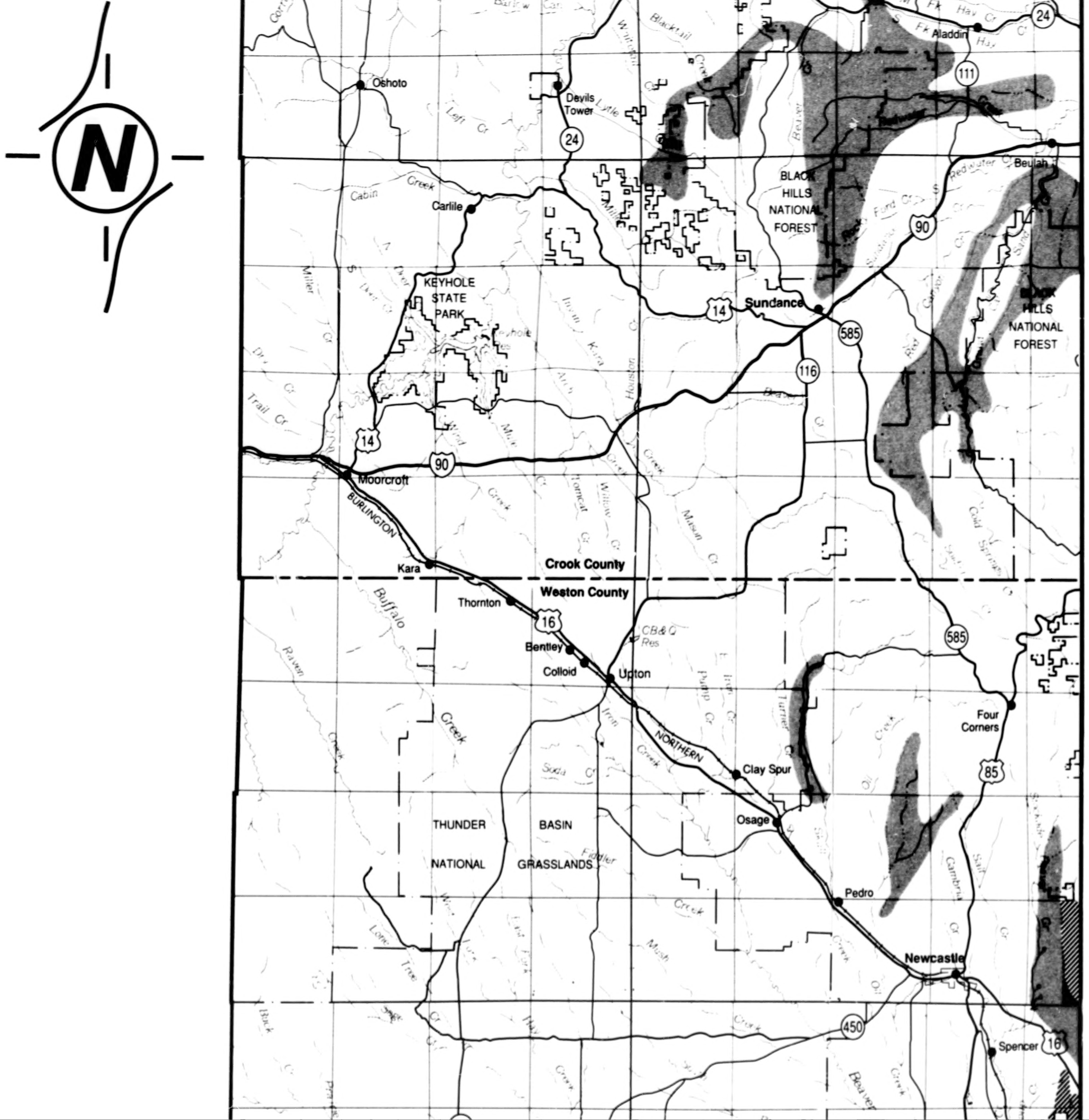
T 58 N
T 57 N
T 56 N
T 55 N
T 54 N
T 53 N
T 52 N
R 67 1/2 W
Lightning Flat
New Haven
Seely
Mona
Bentonite Spur
Four Corners
Hulett
Alva
Aladdin
Oshoto
Devils Tower
Carlile
Beulah
KEYHOLE
BLACK HILLS NATIONAL FOREST
112
212
24
111
90
N
Little Missouri River
North Fork
Belle Fourche River
Battle Cr
Garrmon Prong
Thompson
Mitten Prong
Cedar Cr
Driscoll Cr
Holbert Cr
Government Can
Spring Cr
Boggy Cr
Brushy Cr
Medicine Cr
Deer Cr
Buck Cr
Elkhorn Cr
Ile Cr
Horse
Deep Cr
Pine
Alum
Kilpatrick
Chicago Cr
Middle Cr
Bull Cr
Crow
Barnard
Poison Cr
Canyon
Barlow Can
Blacktail Creek
Whitetail
Oak Creek
N Fk Hay Cr
M Fk Hay Cr
S Fk Hay Cr
Corral Cr
Left Cr
Lytle Cr
Redwater Cr
Beaver
Rocky Ford Cr
Sand
Cabin Creek
Miller

N
Oshoto
Devils Tower
Aladdin
Beulah
Carlile
BLACK HILLS NATIONAL FOREST
KEYHOLE STATE PARK
Sundance
Moorcroft
BURLINGTON
Kara
Crook County
Weston County
Thornton
Bentley
Colloid
Upton
CB&Q Res
NORTHERN
Clay Spur
Osage
Four Corners
THUNDER BASIN NATIONAL GRASSLANDS
Pedro
Newcastle
Spencer
Cabin Creek
Little
Redwater Cr
Beaver
Buffalo Creek
Raven Creek
Soda Cr
Fiddler Creek
Mush Creek
Oil Creek
Lance Creek
Turner Cr
Pump Cr
Iron Creek
Mason Cr
Willow Cr
Tomcat Cr
Houston Cr
Miller Cr
Trail Cr
Cold Springs Cr
Lone Tree
Stockade Beaver Cr
24
111
90
14
585
116
16
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T 45 N
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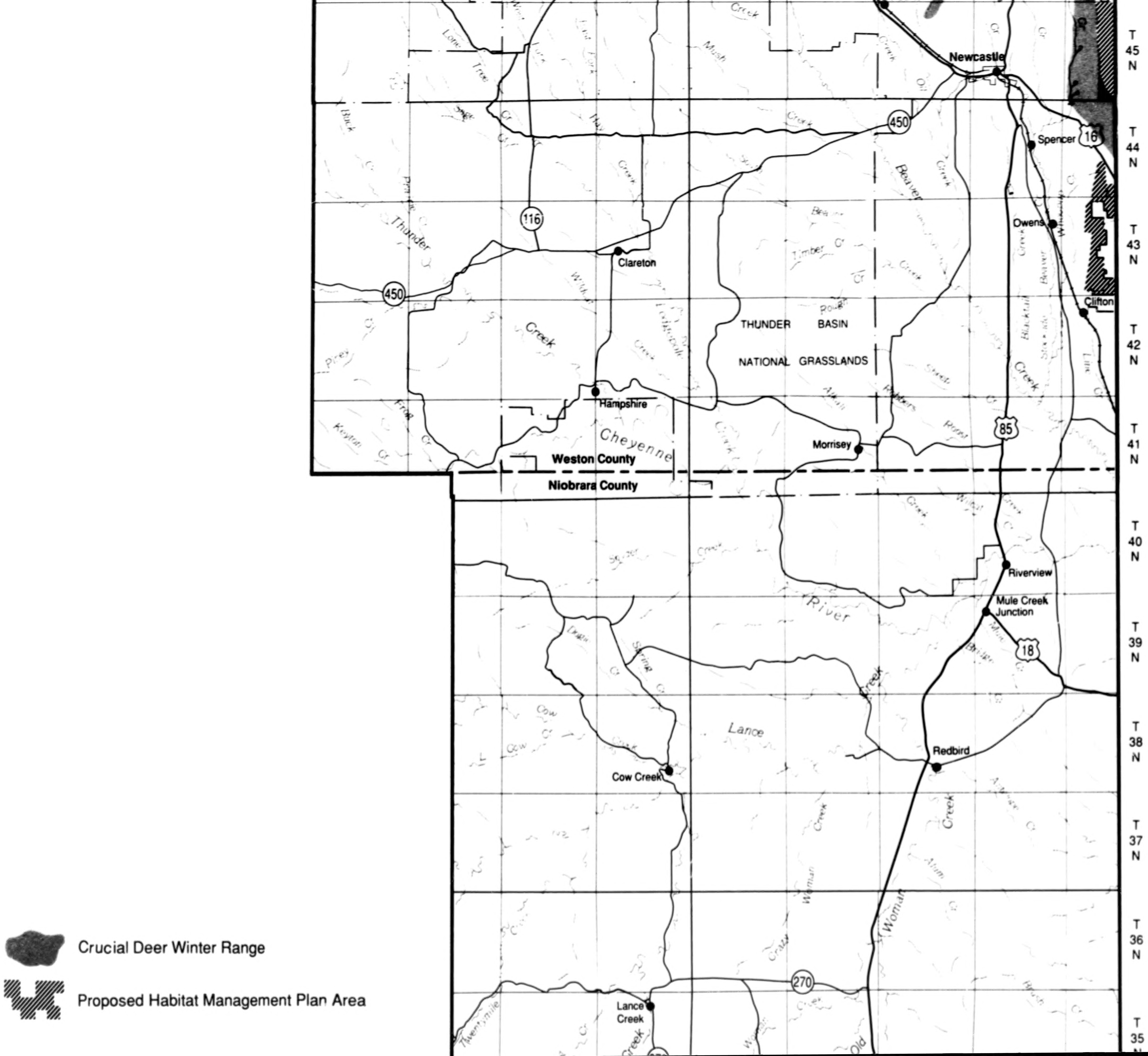
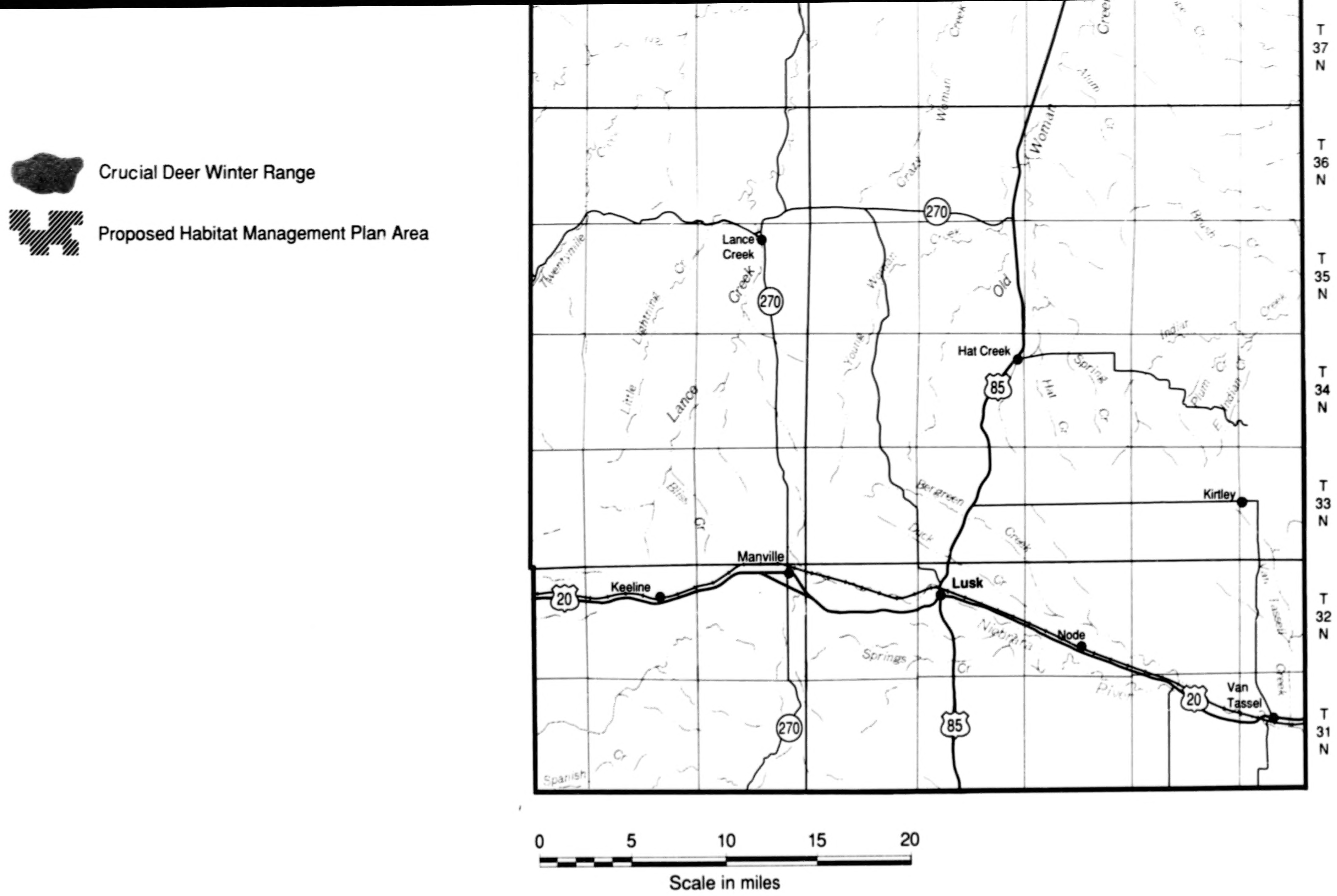

Newcastle
Spencer
Owens
Clifton
Clareton
Hampshire
Morrisey
Riverview
Mule Creek Junction
Redbird
Cow Creek
Lance Creek
THUNDER BASIN
NATIONAL GRASSLANDS
Weston County
Niobrara County
Cheyenne
River
Lance
Thunder
Creek
Beaver
Timber Cr
Woman
Old
Crazy
Twentymile
Cow Cr
Spring
Frog Cr
Keyton Cr
Piney
Prairie Cr
Buck
Lone Tree
Mush
Oil
Blacktail
Stockade
Line Cr
Robbers Roost
Alkali
Skull
Skull Cr
Willow
Lodgepole
Muddy
Mule
Mule Bridge Cr
Spring Cr
Cow Creek
450
116
270
16
85
18
T 45 N
T 44 N
T 43 N
T 42 N
T 41 N
T 40 N
T 39 N
T 38 N
T 37 N
T 36 N
T 35 N
Crucial Deer Winter Range
Proposed Habitat Management Plan Area



Map 3-22
Deer Critical Winter Range
Newcastle Field Office

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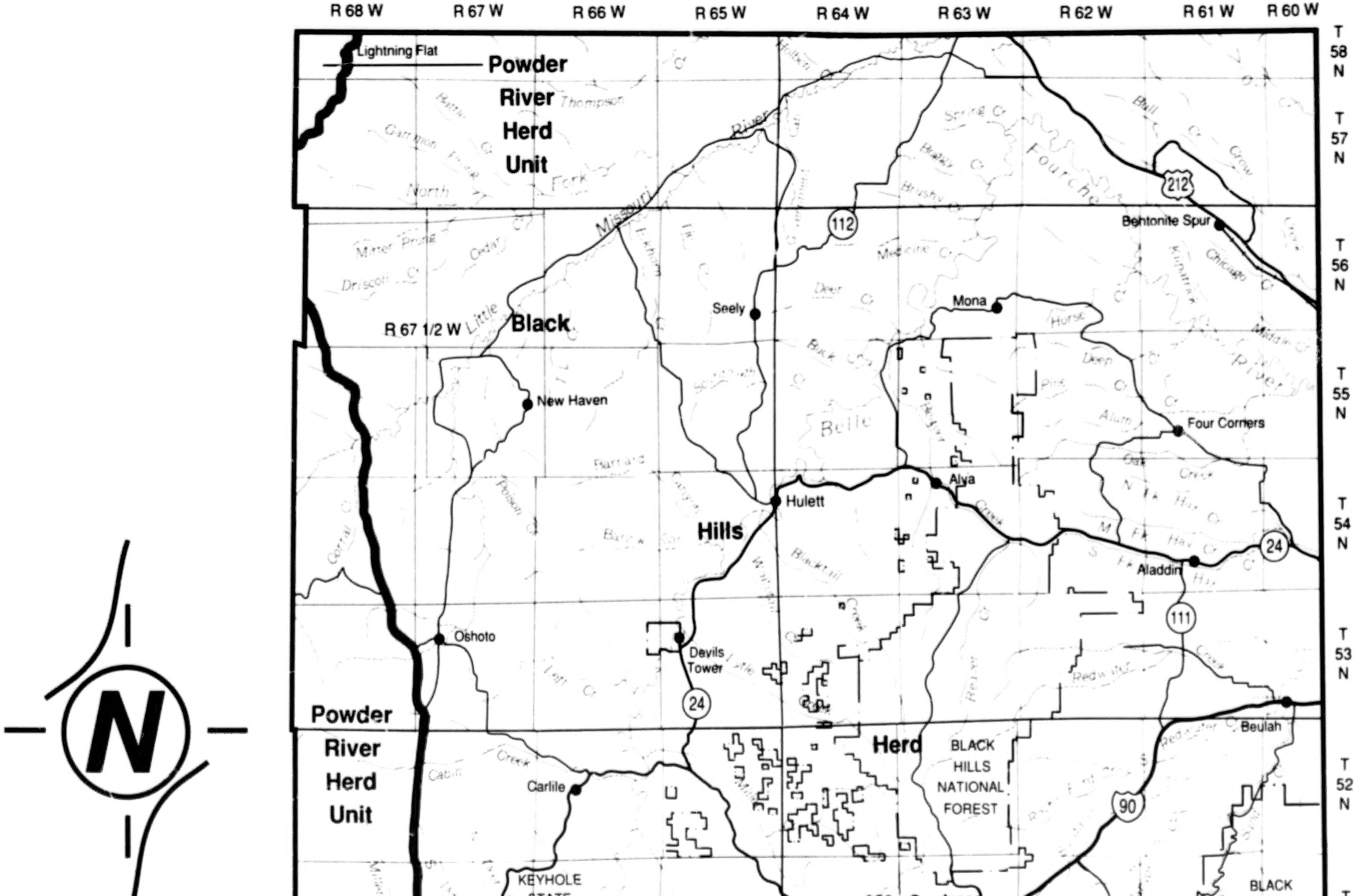
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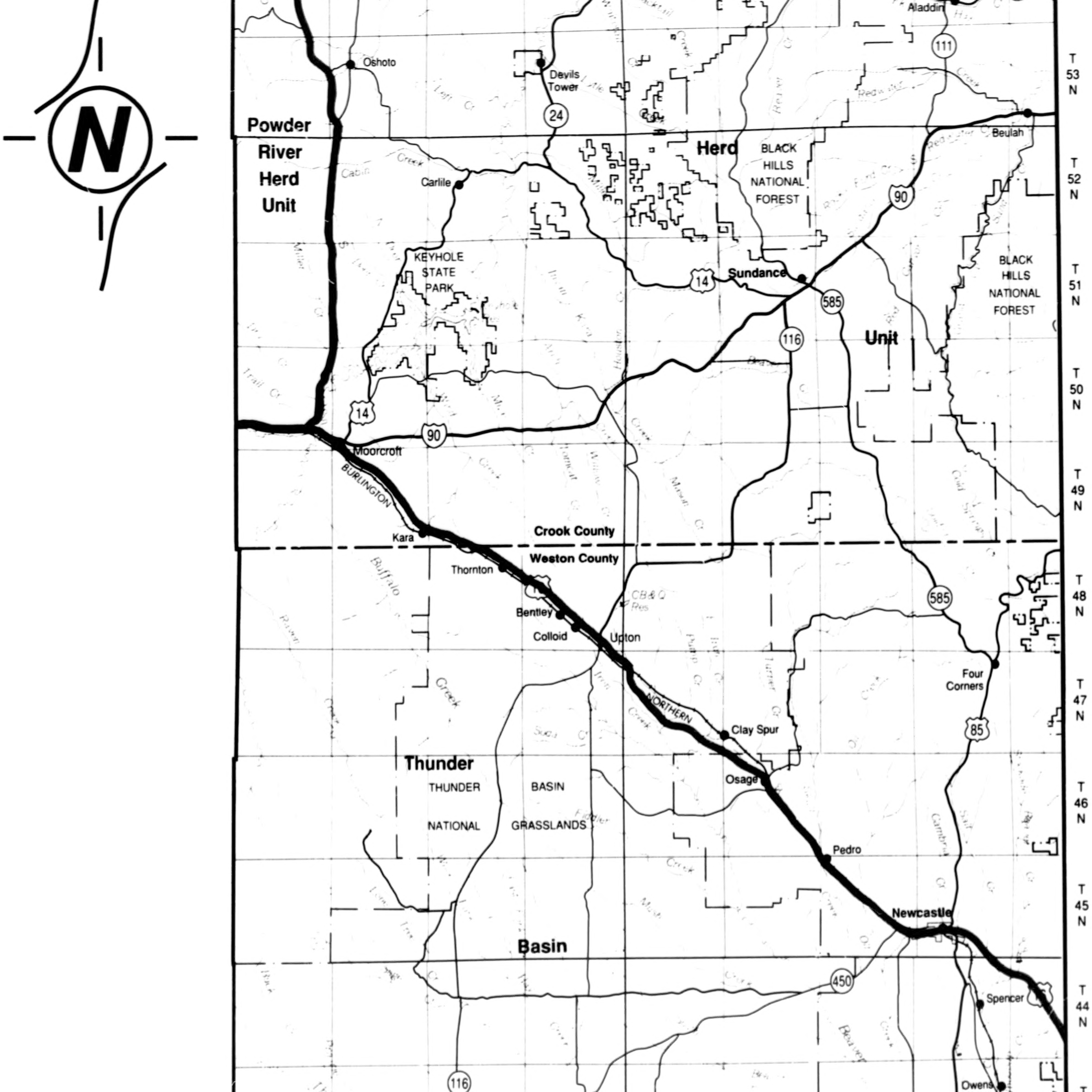
R 65 W
R 64 W
R 63 W
R 62 W
R 61 W
R 60 W
T 58 N
T 57 N
T 56 N
T 55 N
T 54 N
T 53 N
T 52 N
Lightning Flat
Powder River Herd Unit
Black Hills Herd
BLACK HILLS NATIONAL FOREST
R 67 1/2 W
Little Missouri River
Bentonite Spur
Mona
Seely
New Haven
Four Corners
Alva
Hulett
Aladdin
Oshoto
Devils Tower
Beulah
Carlile
KEYHOLE STATE
BLACK
212
112
24
111
90
Belle Fourche River
N


N
Powder River Herd Unit
Herd
Unit
Thunder
Basin
THUNDER BASIN NATIONAL GRASSLANDS
BLACK HILLS NATIONAL FOREST
BLACK HILLS NATIONAL FOREST
KEYHOLE STATE PARK
Crook County
Weston County
Aladdin
Oshoto
Devils Tower
Beulah
Carlile
Sundance
Moorcroft
Kara
Thornton
Bentley
Colloid
Upton
Clay Spur
Osage
Pedro
Newcastle
Spencer
Owens
Four Corners
CB&Q Res
BURLINGTON
NORTHERN
111
24
90
14
585
116
85
450
T 53 N
T 52 N
T 51 N
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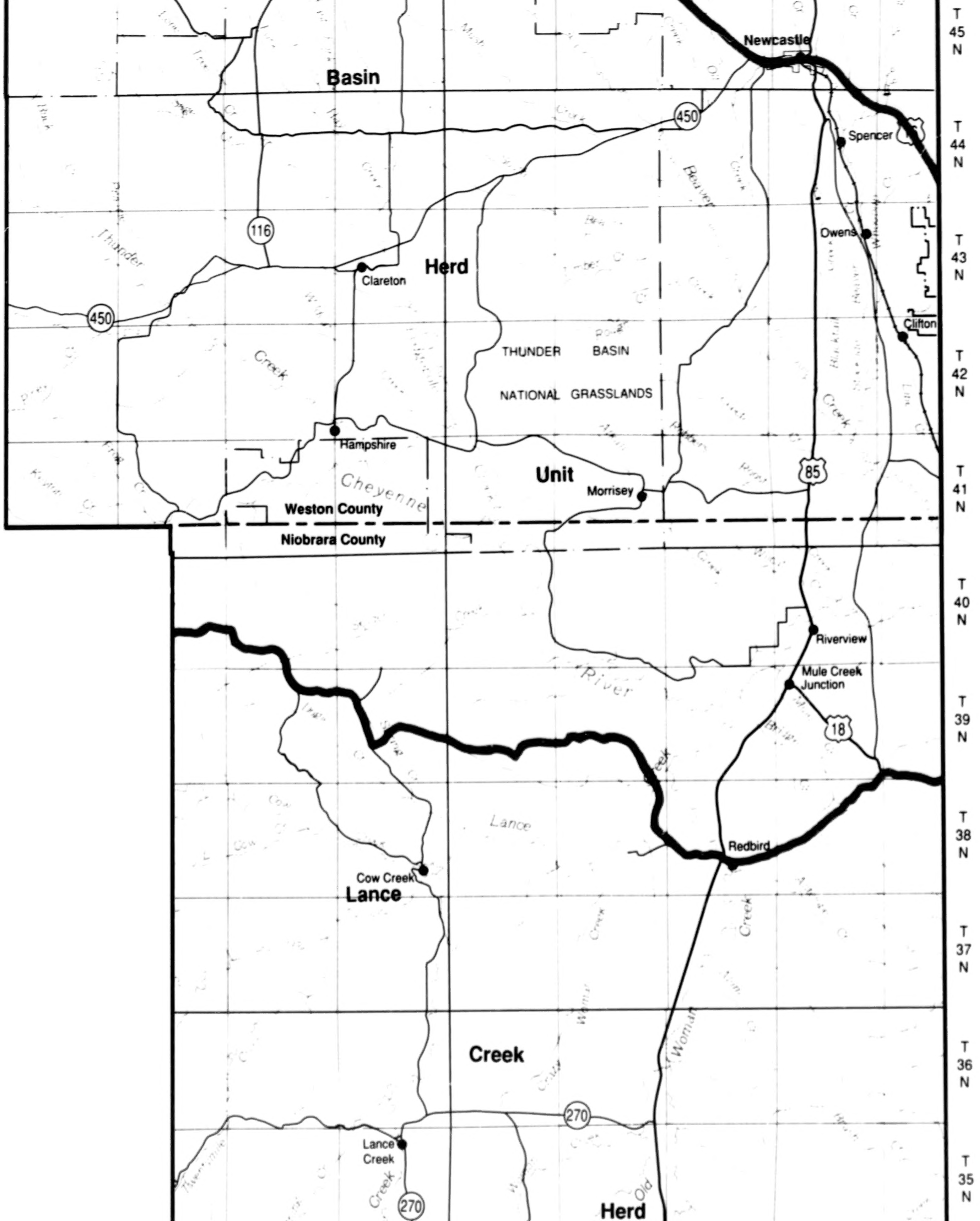
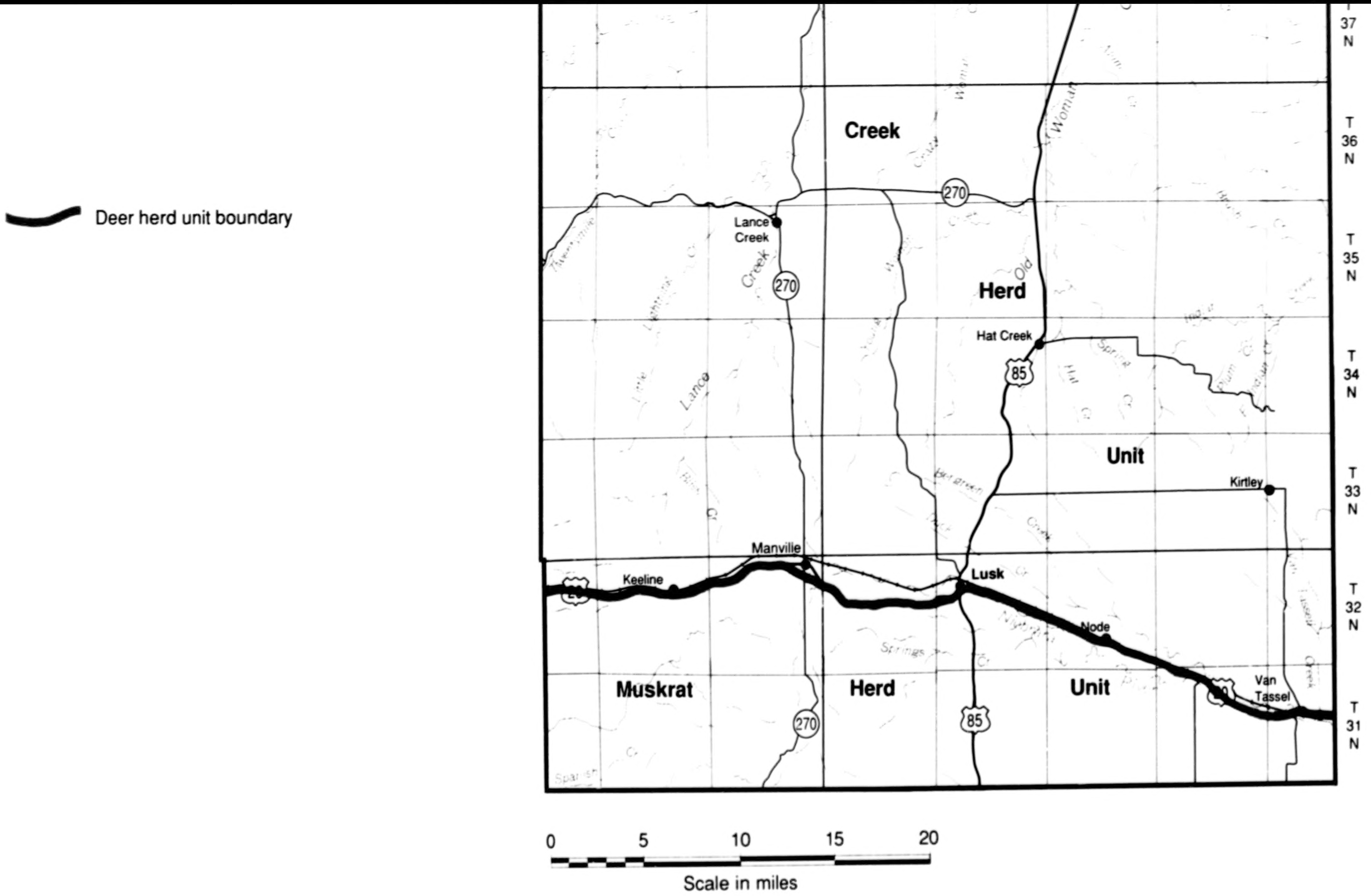
T 49 N
T 48 N
T 47 N
T 46 N
T 45 N
T 44 N



━ Deer herd unit boundary



Map 3-23

Deer Herd Unit Area Boundaries

Newcastle Field Office

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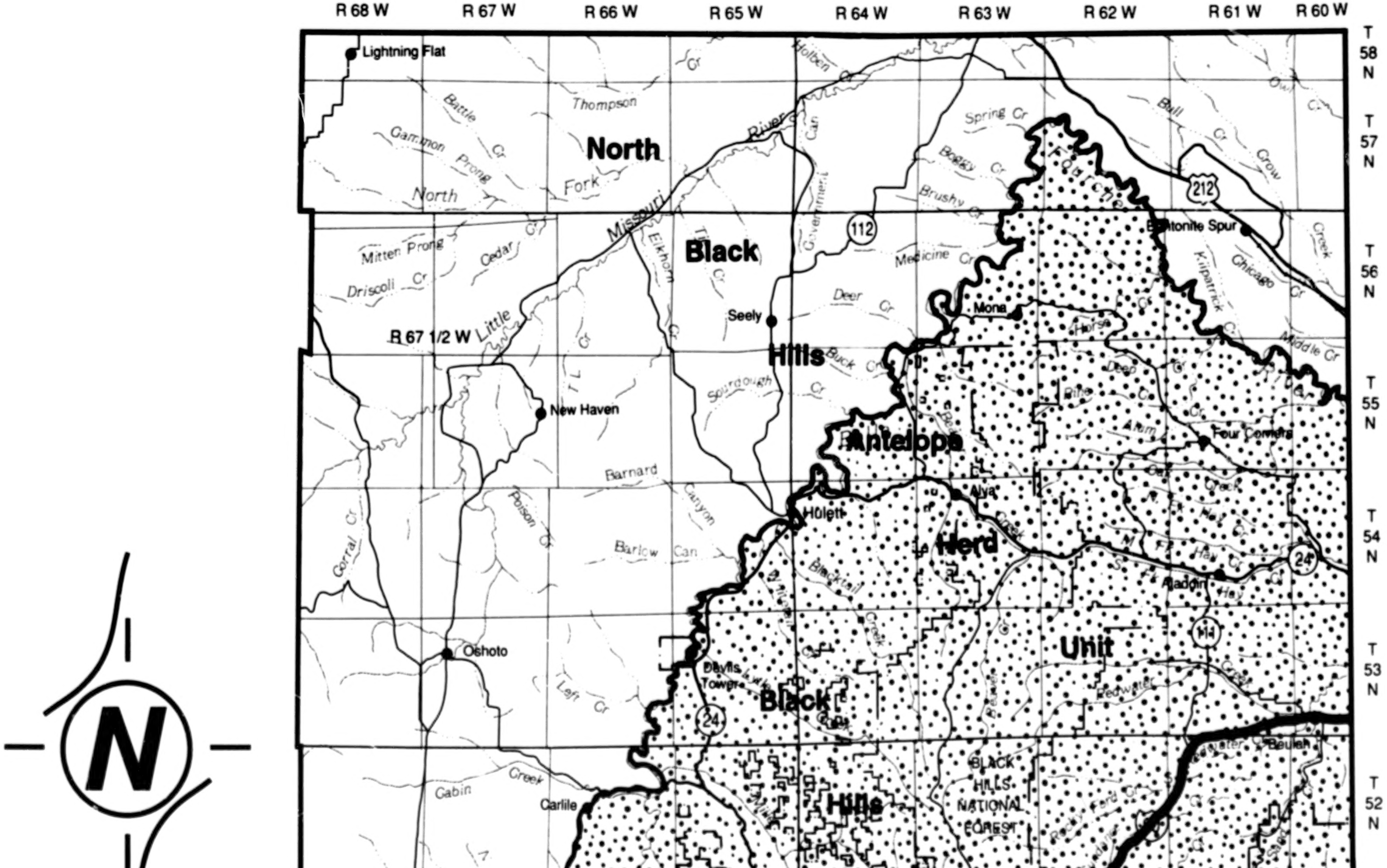
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R 63 W
R 62 W
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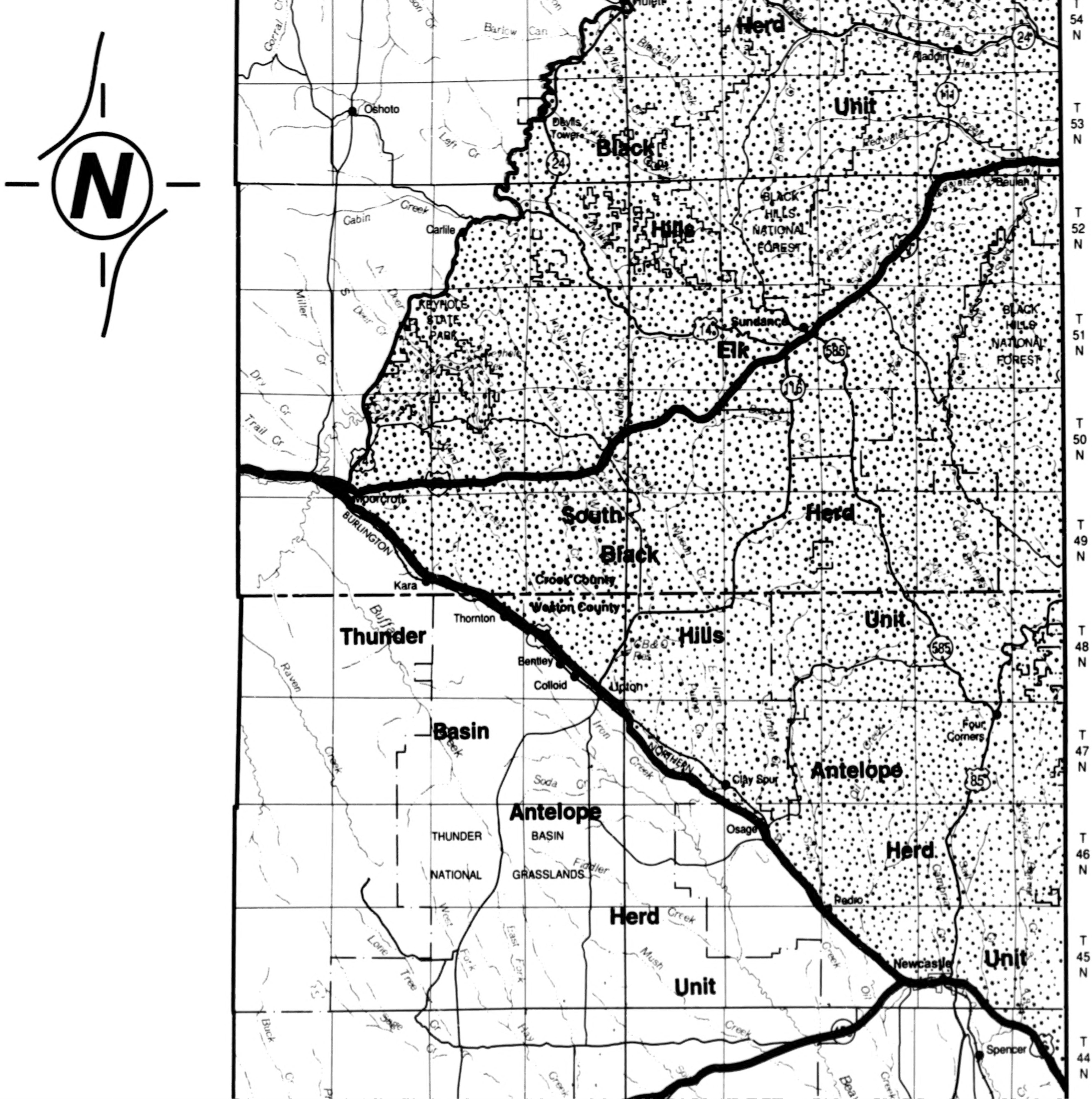
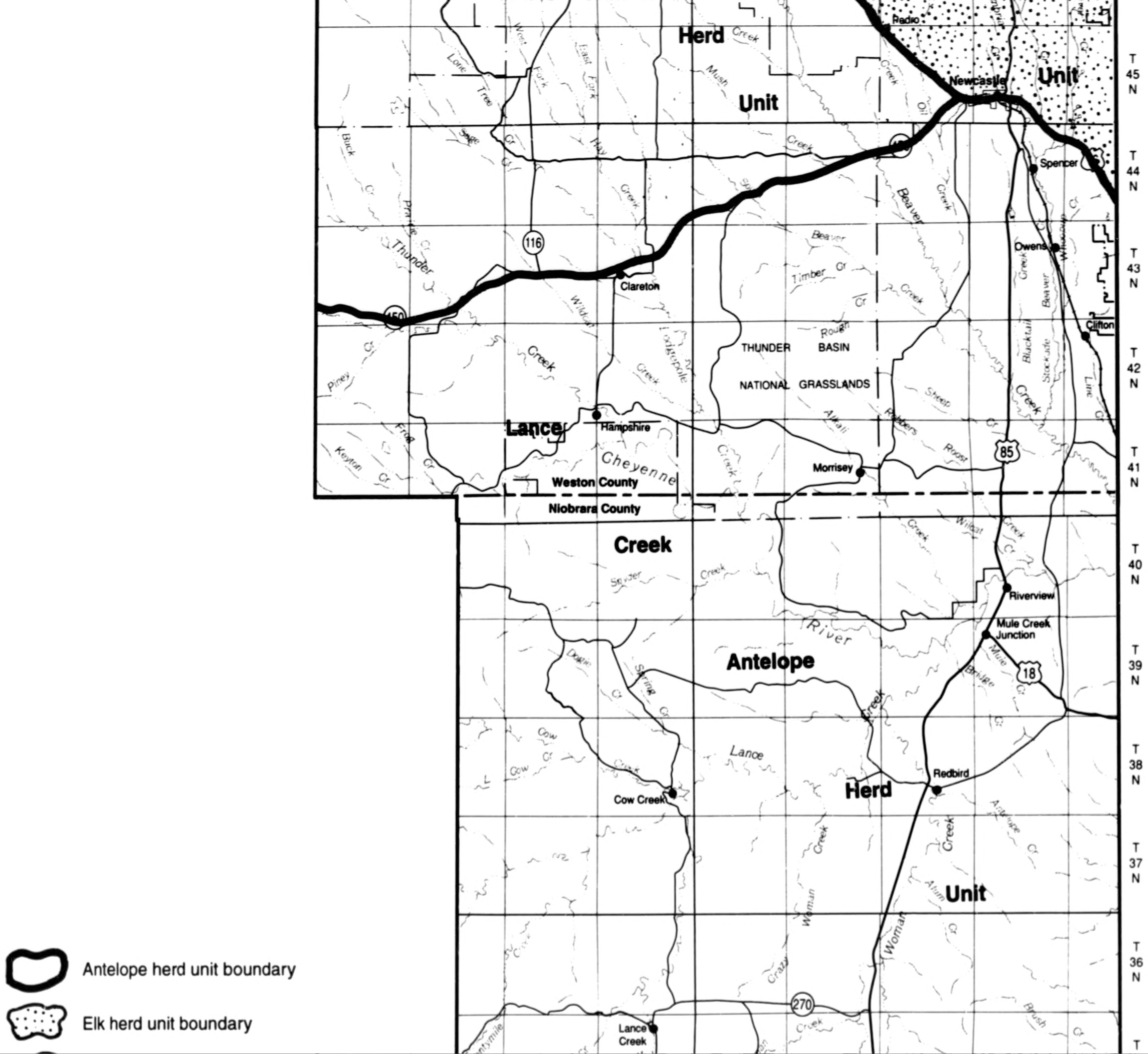
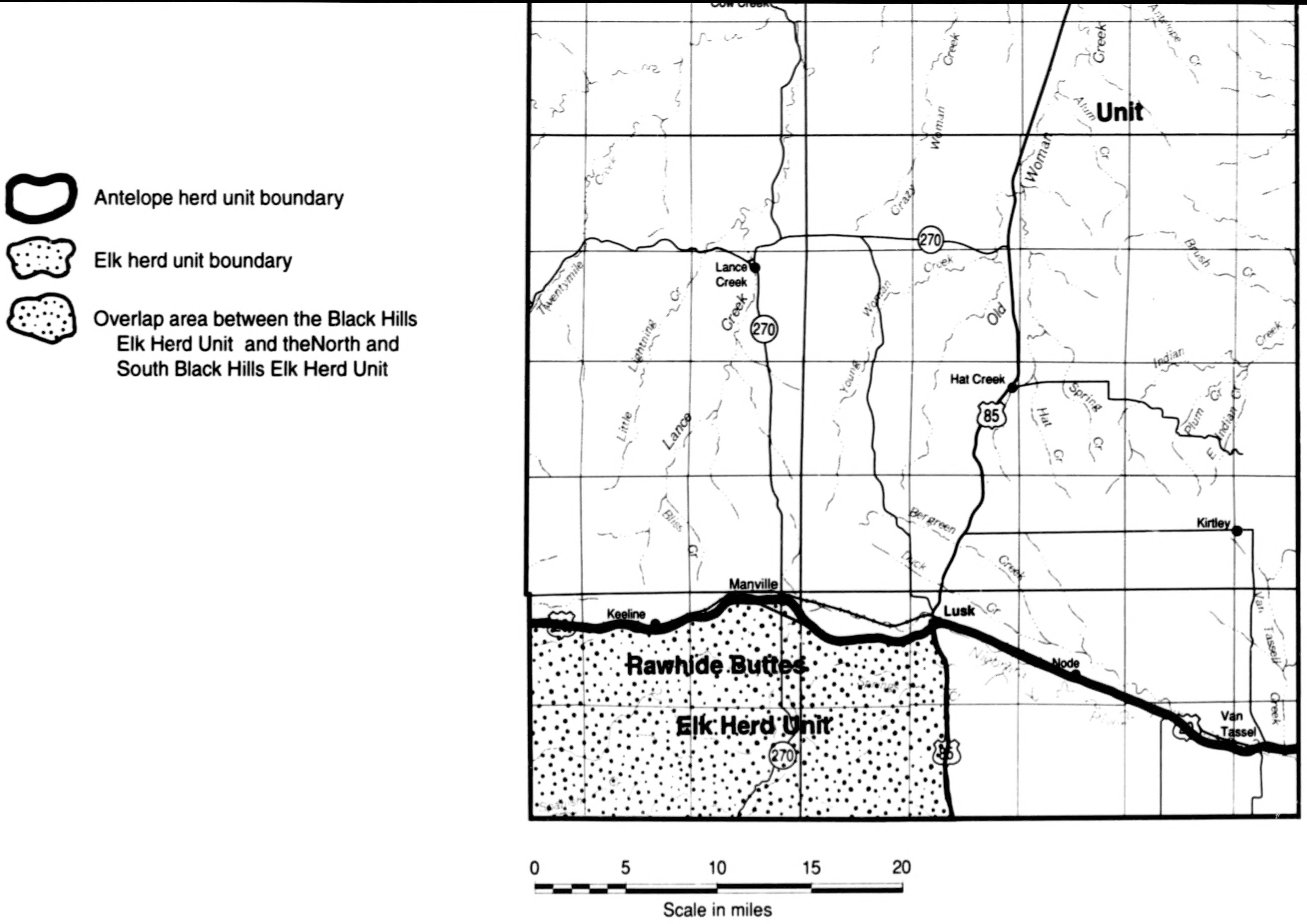
R 60 W
T 58 N
T 57 N
T 56 N
T 55 N
T 54 N
T 53 N
T 52 N
R 67 1/2 W
Lightning Flat
North Fork
Black Hills
Antelope
Herd
Unit
Black Hills
BLACK HILLS NATIONAL FOREST
Thompson
Battle Cr
Gammon Prong
North
Fork
Missouri River
Little
Holben Cr
Cr
Can
Government
112
Spring Cr
Boggy Cr
Brushy Cr
Fourche
Bull Cr
Owl Cr
Crow
212
Bentonite Spur
Creek
Kilpatrick
Chicago Cr
Middle Cr
Mitten Prong
Cedar Cr
Driscoll Cr
Elkhorn
Cr
Medicine Cr
Deer Cr
Seely
Mona
Horse
Buck Cr
Sourdough Cr
Deep
Cr
New Haven
Barnard Canyon
Poison Cr
Barlow Can
Hulett
Alva
Four Corners
Alum
Oak Creek
Hay Cr
Blacktail Creek
Creek
Aladdin
24
111
Corral Cr
Oshoto
Left Cr
Devils Tower
24
Redwater
Redwater
Beulah
Cabin Creek
Carlile
Rocky Ford Cr
Sand
Cr
N

N
Hulett
Herd
Unit
Black
Hills
Elk
South
Black
Hills
Herd
Unit
Antelope
Herd
Unit
Thunder
Basin
Antelope
Herd
Unit
BLACK HILLS NATIONAL FOREST
BLACK HILLS NATIONAL FOREST
KEYHOLE STATE PARK
THUNDER NATIONAL
BASIN GRASSLANDS
Crook County
Weston County
Oshoto
Devils Tower
Carlile
Aladdin
Beulah
Sundance
Moorcroft
Kara
Thornton
Bentley
Colloid
Upton
Clay Spur
Osage
Four Corners
Redbird
Newcastle
Spencer
BURLINGTON
NORTHERN
CB&Q RR
Barlow Can
Corral Cr
Cabin Creek
Left Cr
Miller Cr
Dry Cr
Trail Cr
Buffalo Creek
Raven Creek
Soda Cr
Iron Creek
Fiddler
Lone Tree
West Fork
East Fork
Mush Creek
Oil Creek
Hay Cr
Blacktail Creek
Redwater
Beaver
Cold Springs
Turner Cr
Back Cr
Sage Cr
24
14
16
585
85
T 54 N
T 53 N
T 52 N
T 51 N
T 50 N
T 49 N
T 48 N
T 47 N
T 46 N
T 45 N
T 44 N



Antelope herd unit boundary

Elk herd unit boundary



Map 3-24

Elk and Antelope Herd Unit Area Boundaries

Newcastle Field Office

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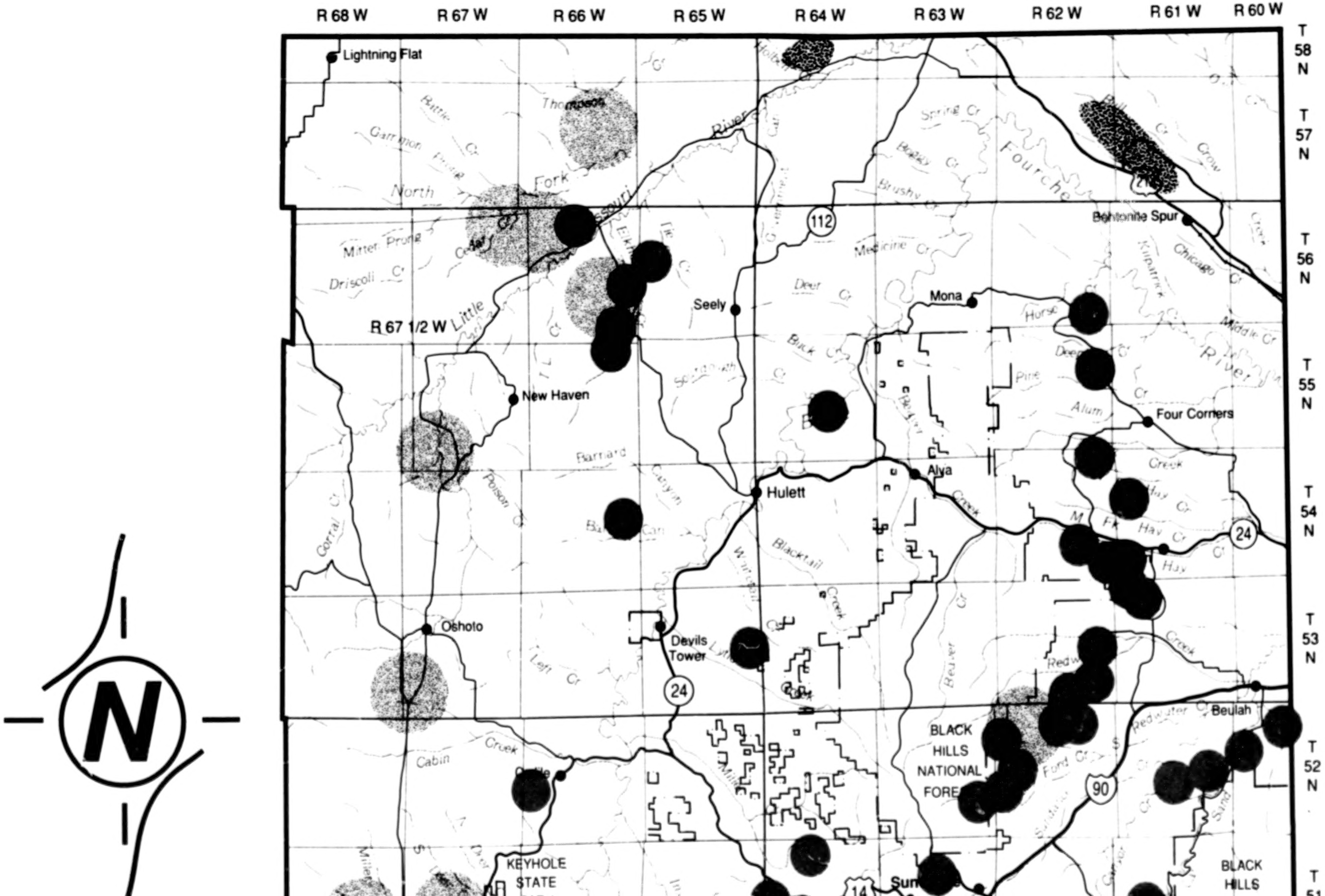
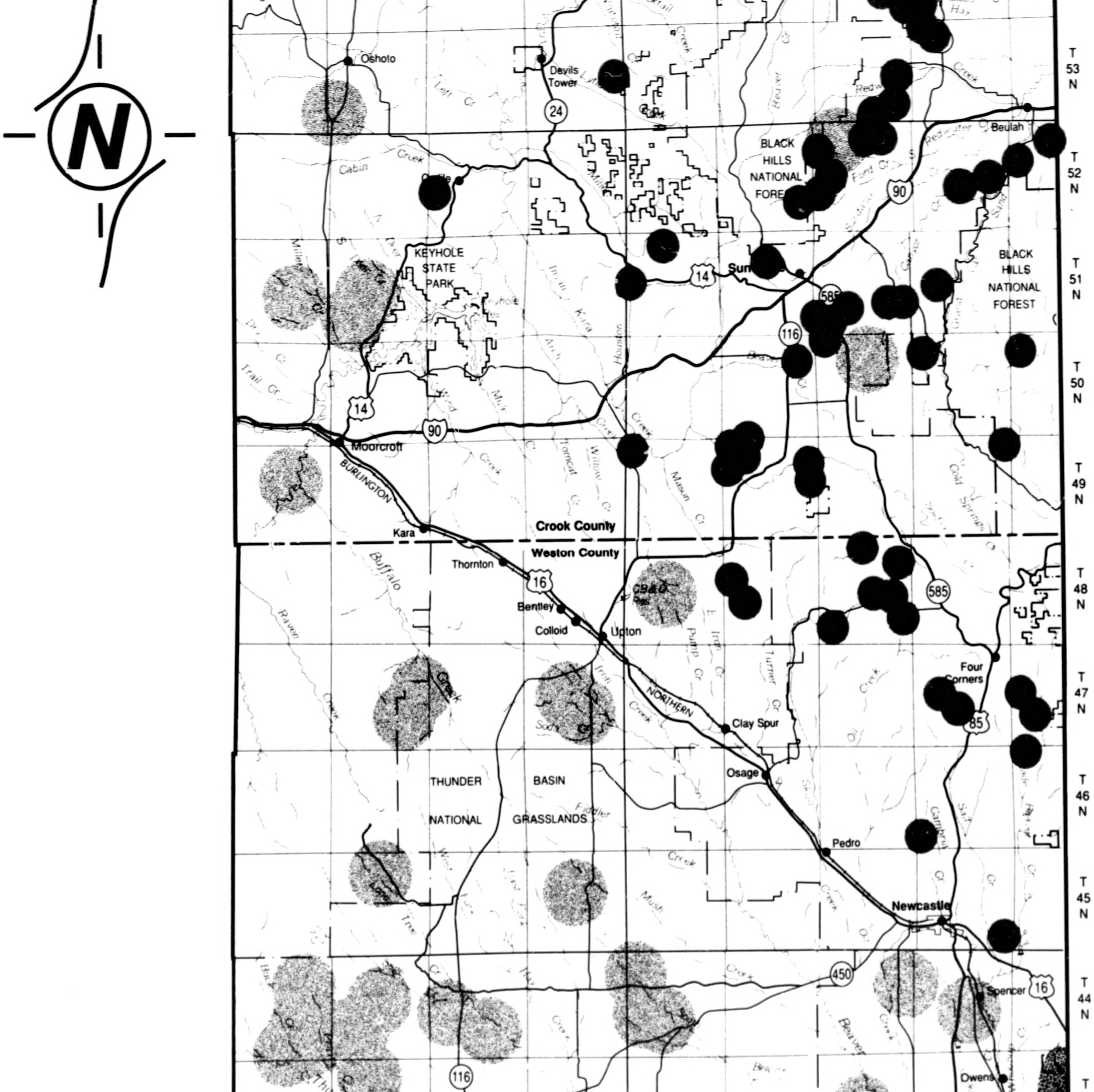
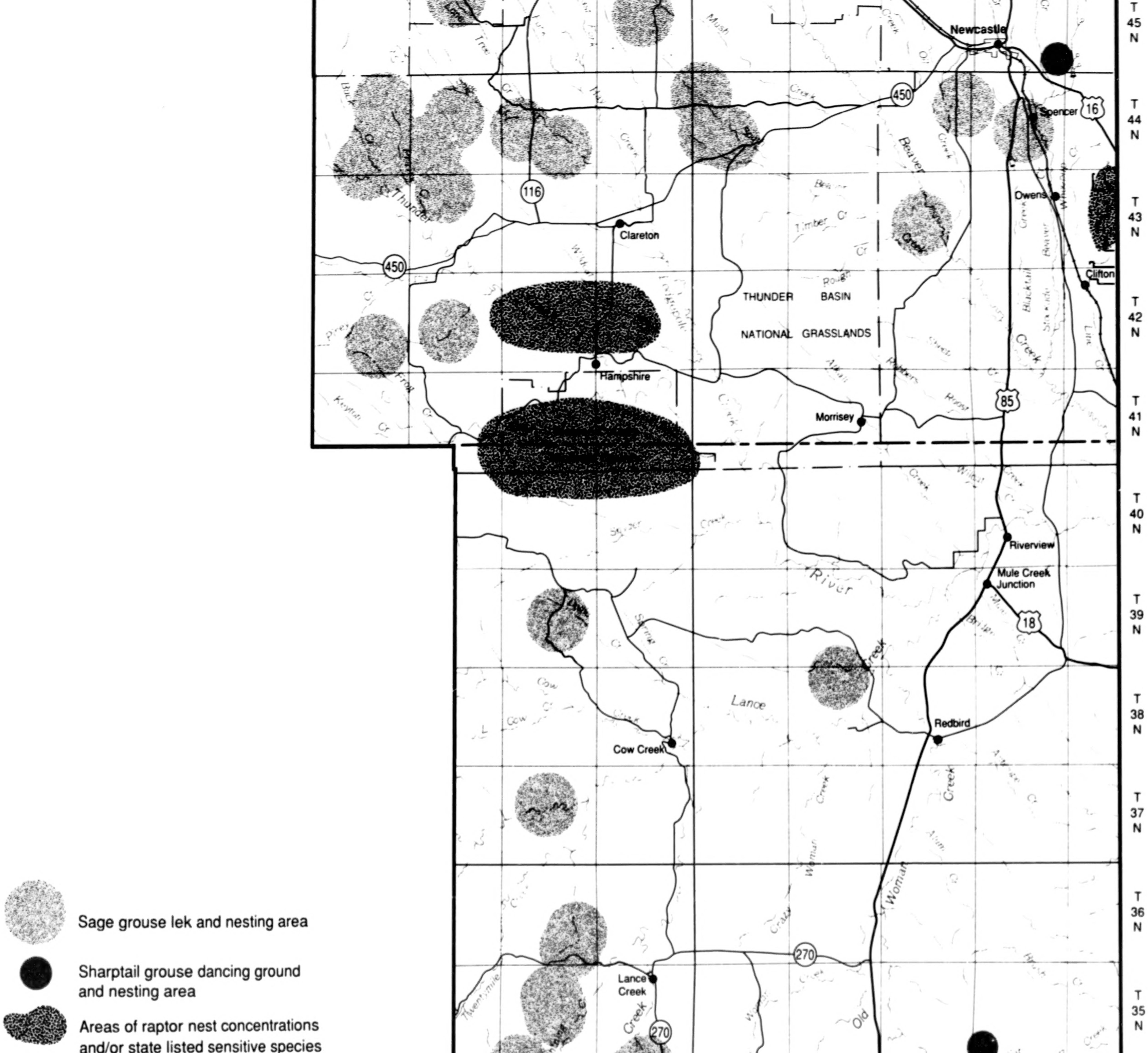
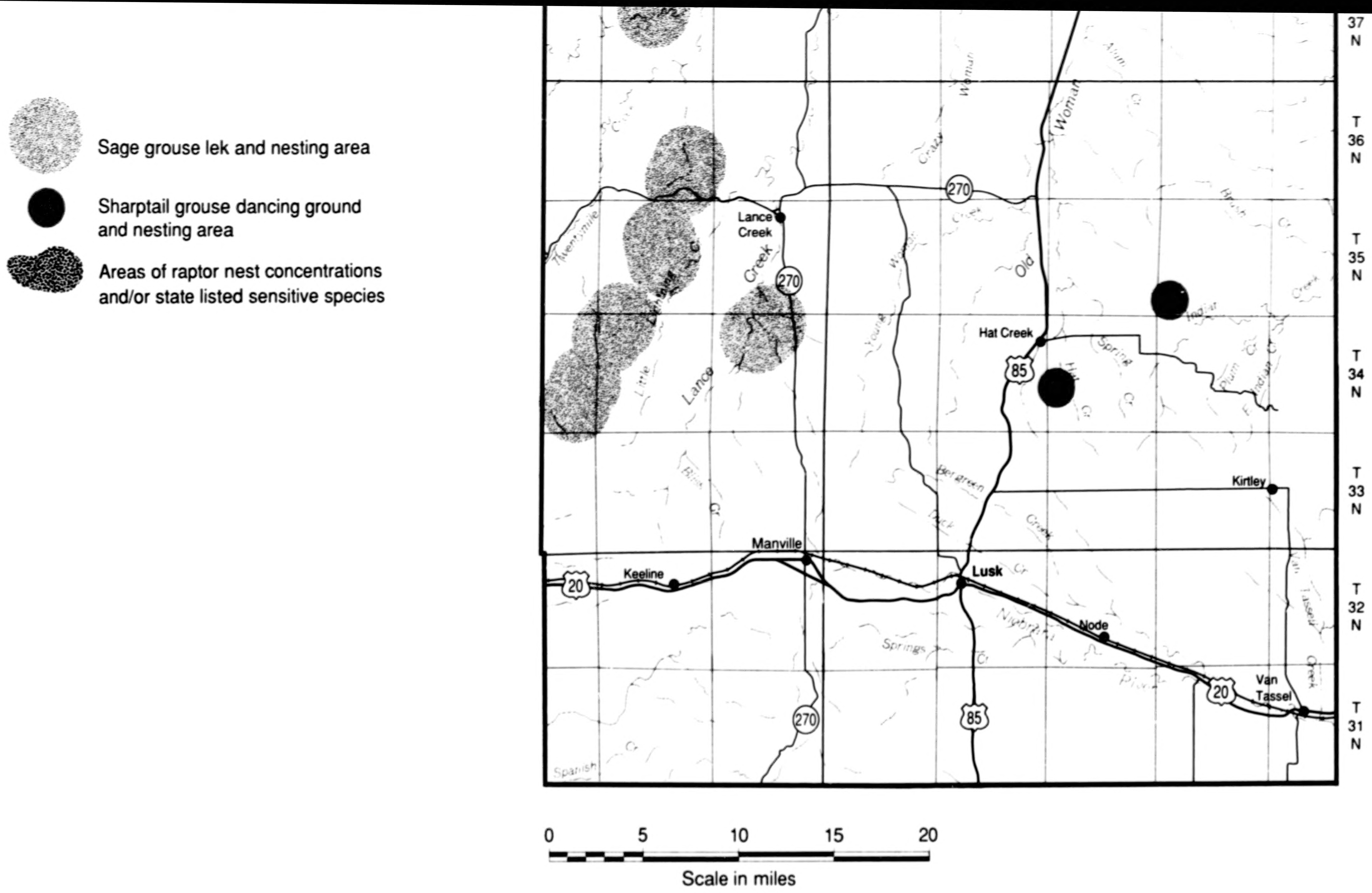

R 68 W
R 67 W
R 66 W
R 65 W
R 64 W
R 63 W
R 62 W
R 61 W
R 60 W
T 58 N
T 57 N
T 56 N
T 55 N
T 54 N
T 53 N
T 52 N
T 51
R 67 1/2 W
Lightning Flat
Thompson
Battle
Carrington
North
Fork
Little
Missouri
River
Mitten Prong
Driscoll Cr
Cedar
Elk
Holben
Spring Cr
Brushy
Fourche
Crow
Bentonite Spur
Chicago Cr
Kilpatrick
Middle Cr
River
112
Medicine Cr
Seely
Deer Cr
Mona
Horse
Buck Cr
Pine
Deep
Alum
Four Corners
New Haven
Barnard
Poison Cr
Canyon
Hulett
Alva
Creek
Hay Cr
M Fk Hay Cr
24
Corral Cr
Blacktail
Creek
Osholo
Devils Tower
Left Cr
Beaver
Redwater
Beulah
BLACK HILLS NATIONAL FORE
Ford Cr
90
Sand
Cabin
Creek
Miller
KEYHOLE STATE
14
BLACK HILLS
N


N
Oshoto
Devils Tower
24
T 53 N
Beulah
Cabin Creek
BLACK HILLS NATIONAL FOREST
T 52 N
90
KEYHOLE STATE PARK
14
Sundance
585
116
BLACK HILLS NATIONAL FOREST
T 51 N
T 50 N
14
90
Moorcroft
BURLINGTON
T 49 N
Kara
Crook County
Weston County
Thornton
16
Bentley
Colloid
Upton
CB&Q
T 48 N
585
Four Corners
T 47 N
NORTHERN
Clay Spur
85
Osage
THUNDER BASIN NATIONAL GRASSLANDS
T 46 N
Pedro
Newcastle
T 45 N
450
Spencer
16
T 44 N
116
Owens
T


Newcastle
Spencer
16
450
116
Clareton
450
Owens
Clifton
THUNDER BASIN
NATIONAL GRASSLANDS
Hampshire
Morrisey
85
Riverview
Mule Creek
Junction
18
River
Lance
Redbird
Cow Creek
Lance
Creek
270
270
Beaver
Timber Cr
Thunder
Frog
Keyton Cr
Cow
Creek
Woman
Old Woman
Twentymile
Crazy
T 45 N
T 44 N
T 43 N
T 42 N
T 41 N
T 40 N
T 39 N
T 38 N
T 37 N
T 36 N
T 35 N
▨ Sage grouse lek and nesting area
● Sharptail grouse dancing ground and nesting area
▨ Areas of raptor nest concentrations and/or state listed sensitive species



Map 3-25

Grouse Nesting and Raptor Concentration Areas

Newcastle Field Office

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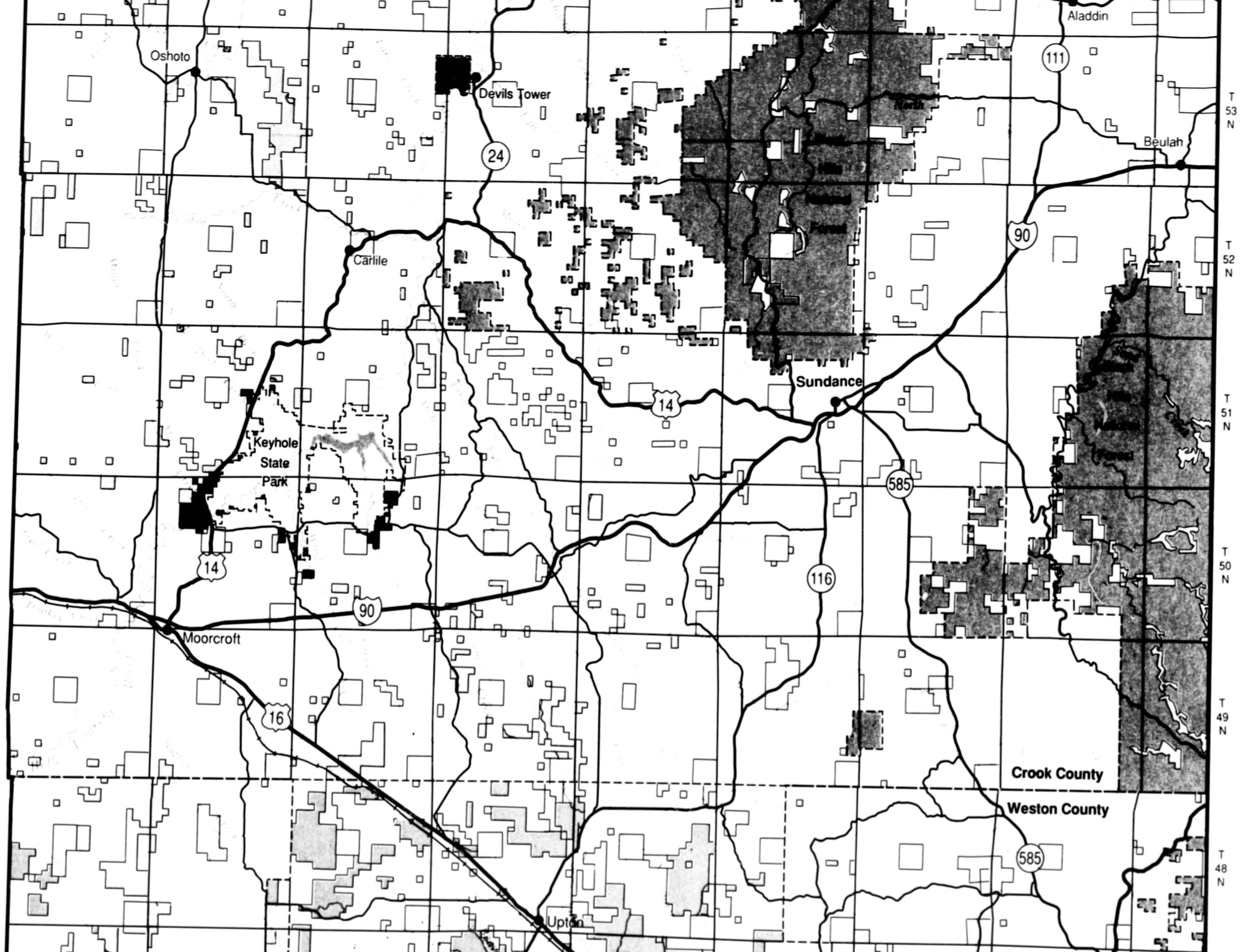
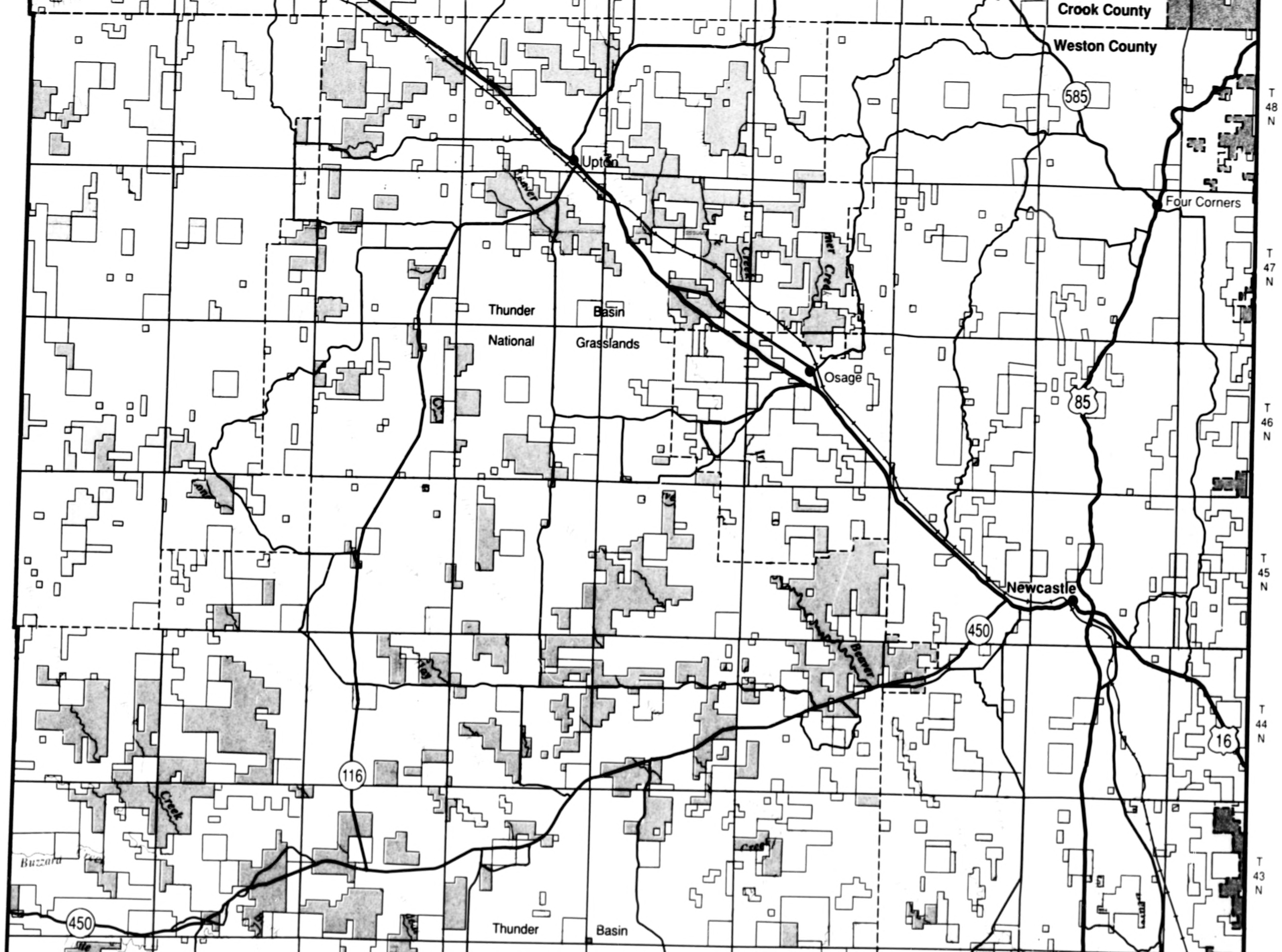
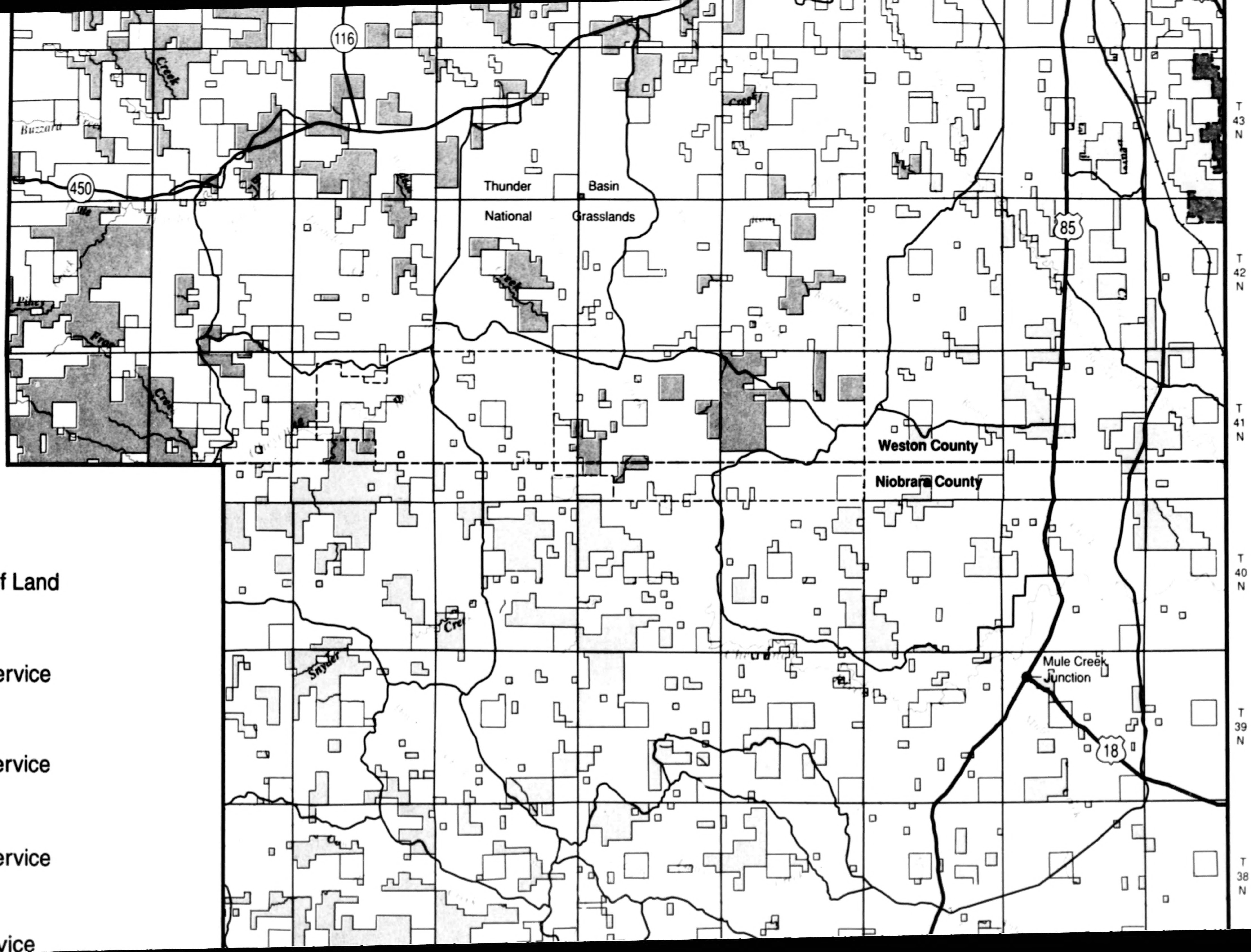
N
R 68 W
R 67 W
R 66 W
R 65 W
R 64 W
R 63 W
R 62 W
R 61 W
R 60 W
T 58 N
T 57 N
T 56 N
T 55 N
T 54 N
T 53 N
212
112
24
111
90
Four Corners
Hulett
Aladdin
Oshoto
Devils Tower
Beulah
Black Hills National Forest
North


Aladdin
Oshoto
Devils Tower
111
24
North
Forest
T 53 N
Beulah
Carlile
90
T 52 N
Forest
Sundance
14
T 51 N
Keyhole State Park
585
14
116
T 50 N
90
Moorcroft
16
T 49 N
Crook County
Weston County
585
T 48 N
Upton


Crook County
Weston County
585
T 48 N
Upton
Four Corners
T 47 N
Thunder Basin National Grasslands
Osage
85
T 46 N
T 45 N
Newcastle
450
T 44 N
16
116
Creek
Beaver
Buzzard
T 43 N
450
Thunder Basin



░ Land administered by the Bureau of Land Management

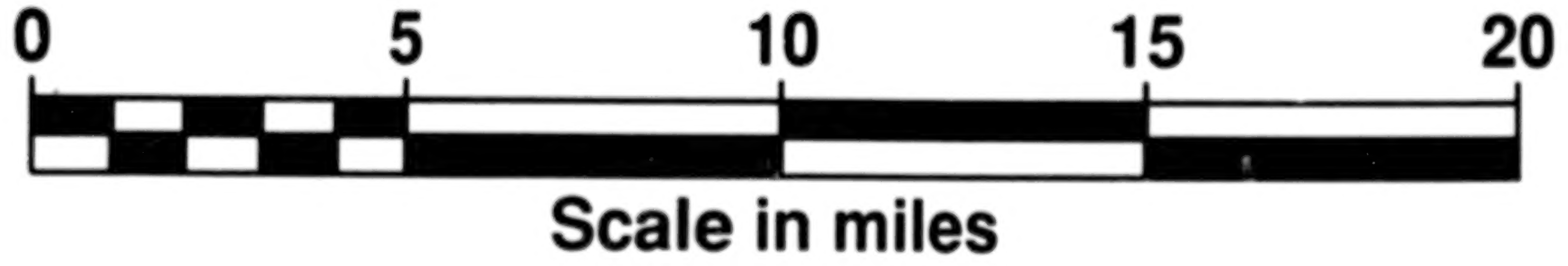
▓ Land administered by the Forest Service (National Forest)

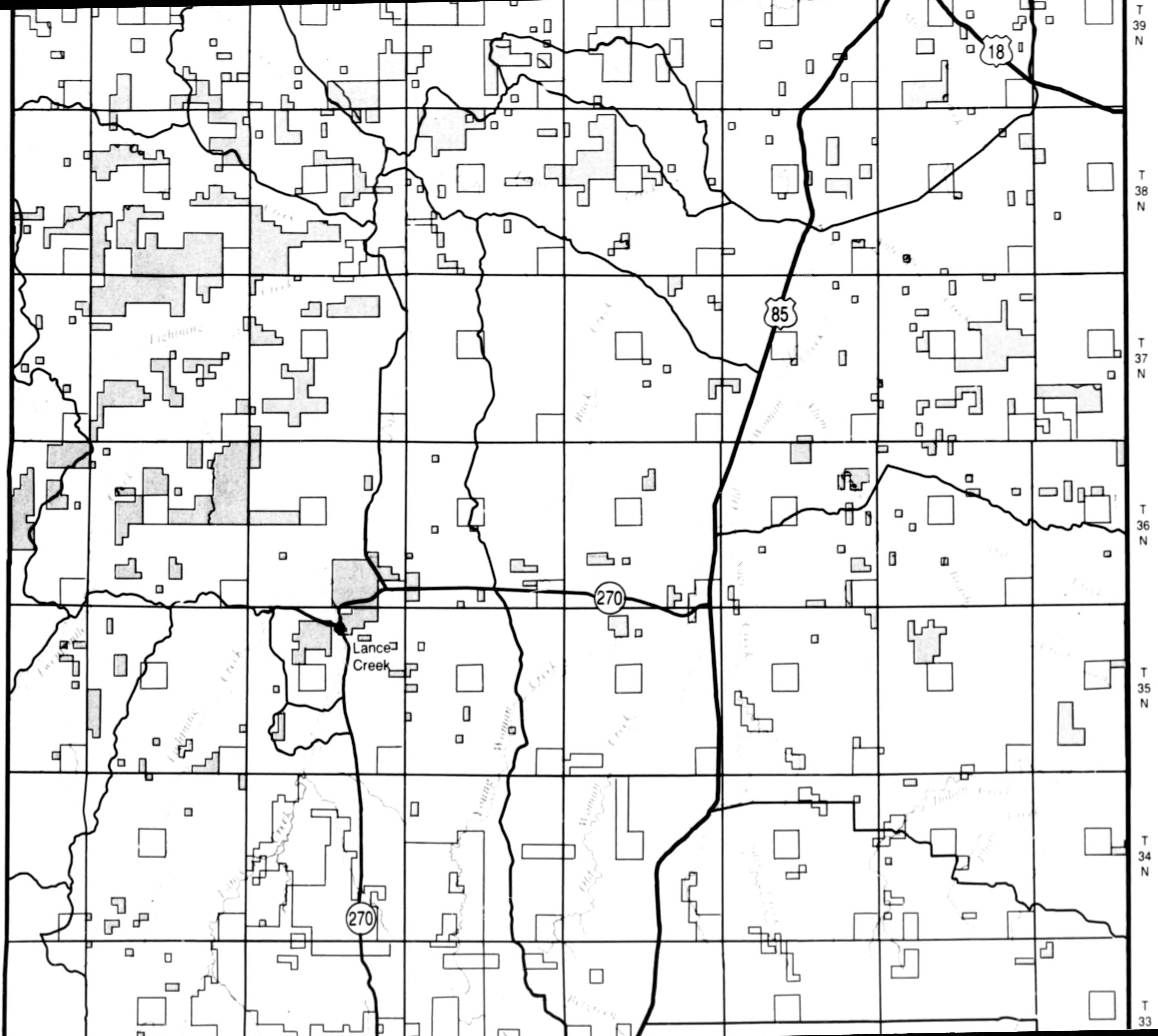
☐ Land administered by the Forest Service (National Grasslands)

▒ Land administered by the Forest Service (Land Use Land)

■ Land administered by the Park Service

☐	Land administered by the Forest Service (National Grasslands)
▨	Land administered by the Forest Service (Land Use Land)
■	Land administered by the Park Service (National Monument)
■	Land administered by the Corps of Engineers (Military Reservation)
■	Land administered by the Bureau of Reclamation
☐	State Land
☐	Private Land





0 5 10 15 20

Scale in miles

Surface Ownership

Newcastle Resource Area

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